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REPORT

OF

THE COMMISSIONER-GENERAL FOR THE UNITED STATES

TO THE

INTERNATIONAL UNIVERSAL EXPOSITION,
PARIS, 1900.

VOLUME IV.

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and ordered to be printed.

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GOVERNMENT PRINTING OFFICE.
1901.

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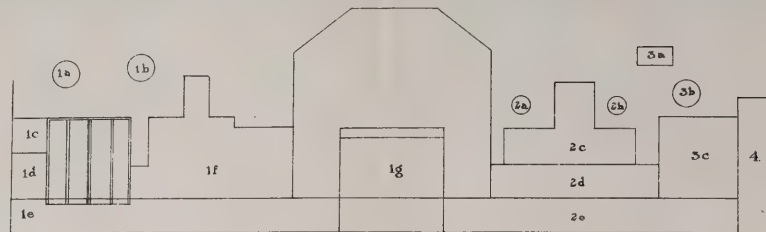


15. PALACE OF FORESTRY, FISHERIES, AND THE CHASE.

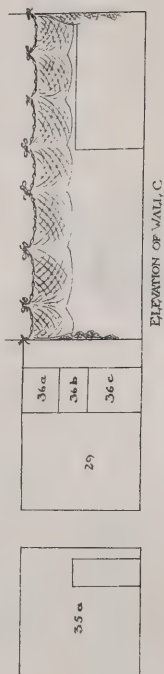
REPORT OF THE DEPARTMENT OF FORESTRY
AND FISHERIES.

GROUP IX.

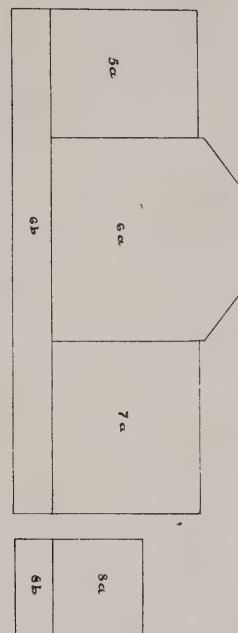
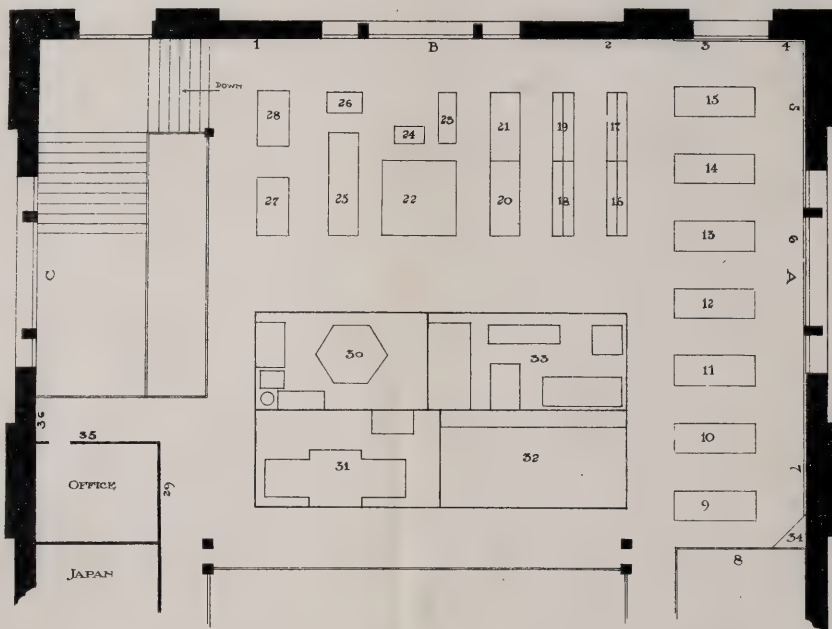
TARLETON H. BEAN, DIRECTOR.



ELEVATION OF WALL B.

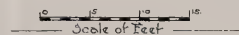


ELEVATION OF WALL C.



ELEVATION OF WALL A.

PARIS EXPOSITION OF 1900
PLAN OF INSTALLATION IN UNITED STATES SPACE
PALACE OF FORESTRY CHAMP DE MARS
GROUP IX





DEPARTMENT OF FORESTRY AND FISHERIES.

CONTENTS.

Key to illustrations and views—Personnel of department—List of department employees—Classification—Cataloguing—Director's narrative—Collective exhibits—Transportation of exhibits—Installation of exhibits—Contract and specifications for furniture, etc.—Installation and decorations—Forestry exhibits—Return of exhibits—Analysis of exhibitors by classes—Awards—Exhibit of associations—Fishing equipment and products—Comparison of awards—Description of exhibits (forestry: plan of installation, United States space, palace of forestry; plan of installation, United States annex, Champ de Mars; plan of installation, United States annex at Vincennes; fishery; hunting)—List of game and aquatic birds of North Carolina.

KEY AND LEGENDS TO ILLUSTRATIONS AND VIEWS.

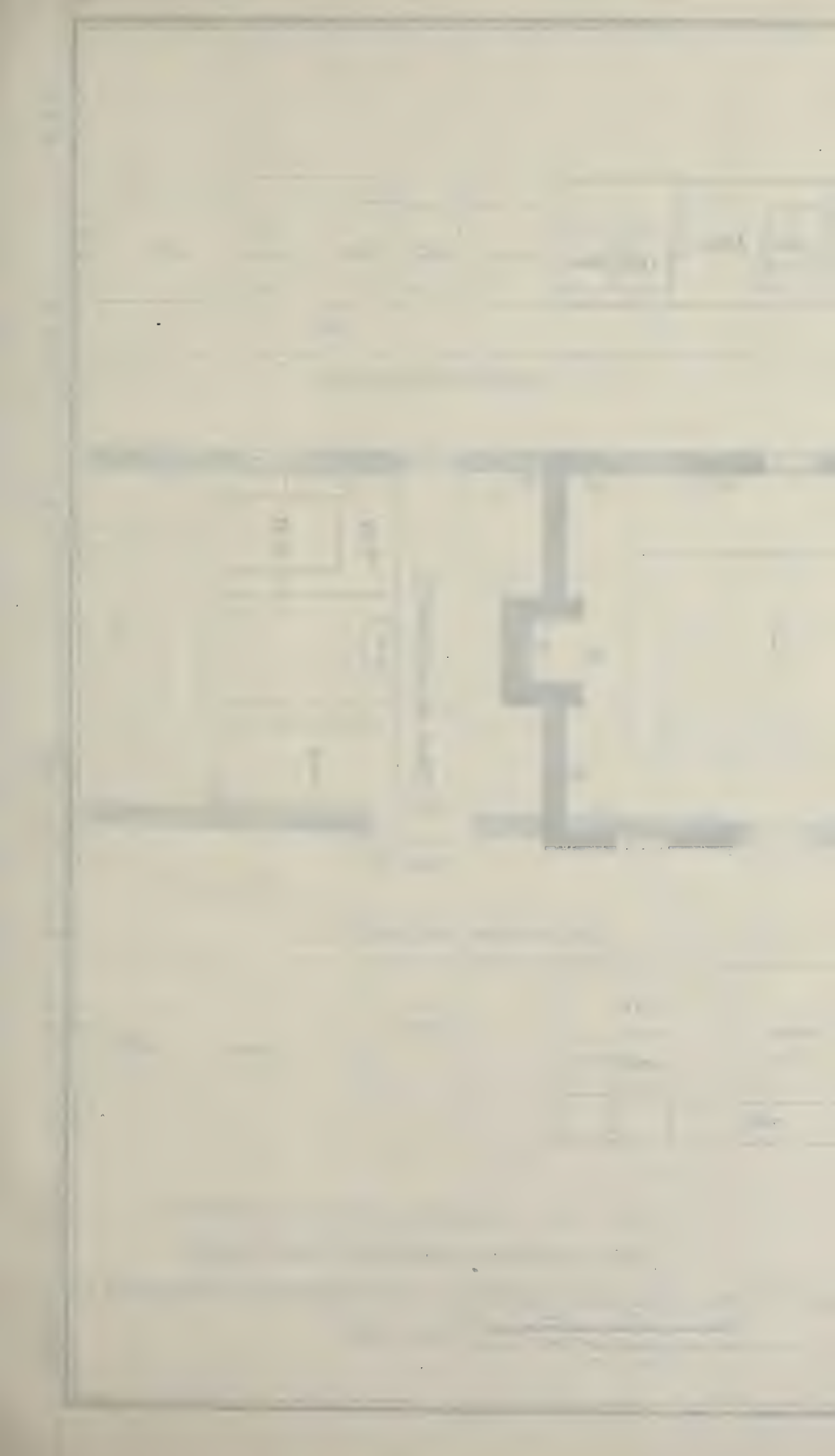
- G-1. Forestry annex, Champ de Mars. Front view from southeast and outside exhibit shelter.
- G-2. Forestry annex, Champ de Mars. Front view looking northeast.
- G-3. Forestry annex, Champ de Mars. Interior view looking northwest.
- G-4. Forestry annex, Vincennes.
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- G-8. Forestry and fishery exhibits, north end of section, Champ de Mars.
- G-9. Game heads and pictures, forestry and fisheries section, Champ de Mars.
- G-10. Forestry and fisheries section, Champ de Mars, southeast corner.

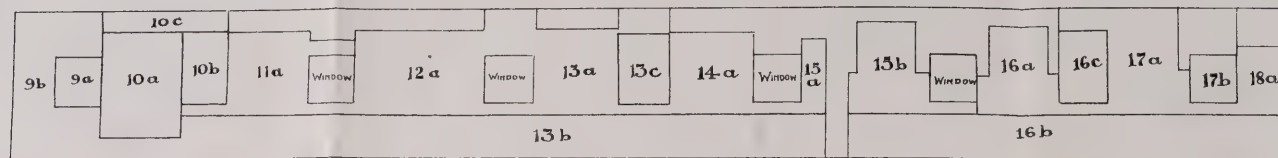
KEY TO INSTALLATION FORESTRY AND FISHERIES SECTION.

[See plan of installation in United States space, palace of forestry, Champ de Mars.]

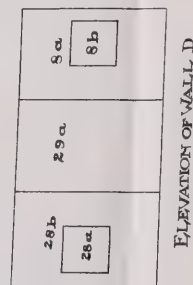
- 1a-1b. Purse net lines. The American Net and Twine Company, Boston, Mass.
- 1c. Sign of United States section.
- 1d. Fishery pictures. United States Commission of Fish and Fisheries, Washington, D. C.
- 1e. California woods. California Paris Exposition commission, San Francisco, Cal.
- 1f. Fishery pictures. United States Commission of Fish and Fisheries, Washington, D. C.
- 1g. Heads of deer. C. S. Phillips, Glover, Vt.
Flash-light pictures of deer. George Shiras, 3d, Pittsburg, Pa.
California woods. California Paris Exposition commission, San Francisco, Cal.
Snowshoes. Arthur Savage, Utica, N. Y.
Fishing nets. American Net and Twine Company, Boston, Mass.
- 2a. Deer head. Jacob Gunther, Middletown, N. Y.

- 3a. Sign of United States section.
- 2b. Deer head. Jacob Gunther, Middletown, N. Y.
- 3b. Deer head. Jacob Gunther, Middletown, N. Y.
- 2c. Fishery pictures. United States Commission of Fish and Fisheries, Washington, D. C.
- 3c. Forestry transparencies. United States Department Agriculture, Washington, D. C.
- 2d. Chromo-lithographs of fishes. Julius Bien & Co., New York, N. Y.
- 2e. California woods. California Paris Exposition commission, San Francisco, Cal.
4. Forestry maps and pictures. United States Department Agriculture, Washington, D. C.
5. Forestry pictures. United States Department Agriculture, Washington, D. C.
North Carolina woods. Board of agriculture, Raleigh, N. C.
Netting. American Net and Twine Company, Boston, Mass.
6. Forestry transparencies. United States Department Agriculture, Washington, D. C.
Netting. American Net and Twine Company, Boston, Mass.
North Carolina woods. Board of agriculture, Raleigh, N. C.
7. Forestry pictures. United States Department Agriculture, Washington, D. C.
Netting. American Net and Twine Company, Boston, Mass.
North Carolina woods. Board of agriculture, Raleigh, N. C.
8. Forestry pictures. United States Department Agriculture, Washington, D. C.
Netting. American Net and Twine Company, Boston, Mass.
North Carolina woods. Board of agriculture, Raleigh, N. C.
9. Publications. United States Fish Commission, Washington, D. C., and by 29 authors, concerning land and aquatic animals.
Illustrations of animals. Forest and Stream Publishing Company, New York.
A. G. Wallihan, Lay, Colo.
Fishery illustrations. United States Fish Commission, Washington, D. C.
Forestry publications. United States Department Agriculture, Washington, D. C.; Franklin B. Hough, Lowville, N. Y.
10. Artificial flies. John Benn & Daughter, San Francisco, Cal.
11. Pearl-button industry. United States Fish Commission, Washington, D. C.
12. Angling tackle. Abbey & Imbrie, New York.
13. Angling tackle. Abbey & Imbrie, New York.
14. Angling tackle. Abbey & Imbrie, New York.
15. Angling tackle. Abbey & Imbrie, New York.
16. Fish casts and photographs. California Paris Exposition commission, San Francisco, Cal.
17. Fish casts and mounted fish. California Paris Exposition commission, San Francisco, Cal.
18. Fish casts and drawings. United States Fish Commission, Washington, D. C.
19. Fish casts and drawings. United States Fish Commission, Washington, D. C.
20. Fish-culture apparatus. United States Fish Commission, Washington, D. C.
21. Lobster. American Museum Natural History, New York.
Lobster fishery models. Jay C. Smith, T Wharf, Boston, Mass.
Group of quail. North Carolina board of agriculture, Raleigh, N. C.
Eskimo fishing apparatus. Tarleton H. Bean, New York.
Mounted fox, raccoon, and woodchuck. Jacob Gunther, Middletown, N. Y.
22. Fish-hatchery model. United States Fish Commission, Washington, D. C.
23. Publications. Forest and Stream Publishing Company, New York.
24. Publications. Forest and Stream Publishing Company, New York.
25. Aquatic birds. North Carolina board of agriculture, Raleigh, N. C.
26. Watch and chronometer oils. New Bedford Oil Company, East Boston, Mass.

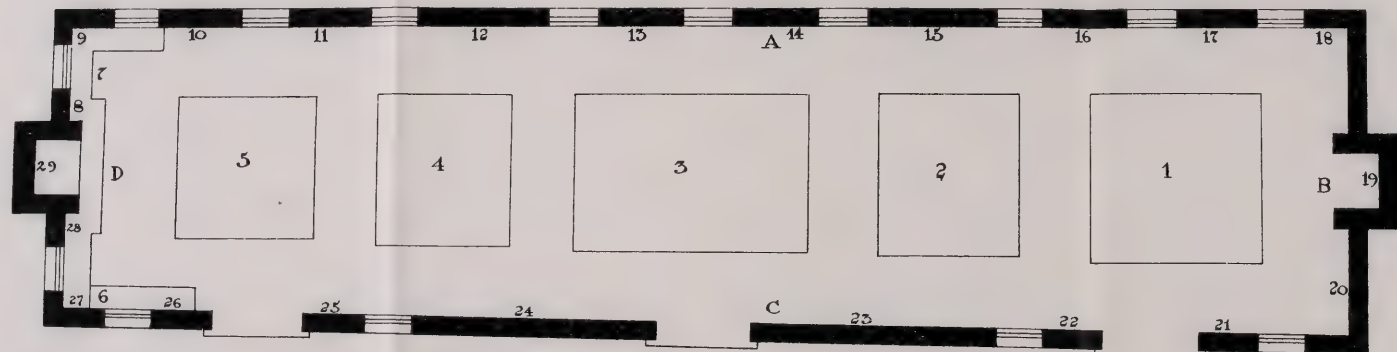




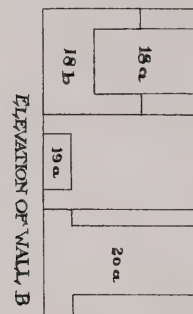
ELEVATION OF WALL, A



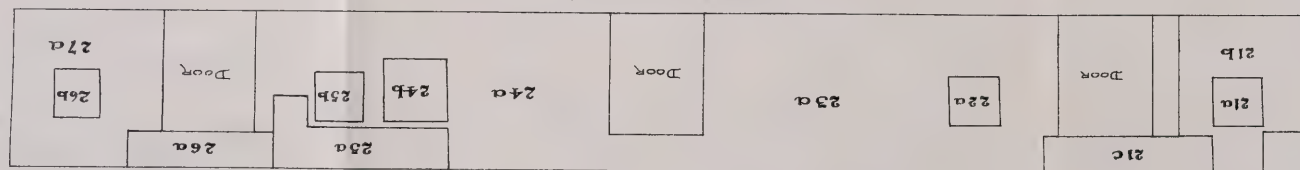
ELEVATION OF WALL, D



PLAN



ELEVATION OF WALL, B



ELEVATION OF WALL, C

PARIS EXPOSITION OF 1900
 PLAN OF INSTALLATION IN
 UNITED STATES FORESTRY ANNEX CHAMP DE MARS
 GROUP IX



27. Hunting equipments. Tiffany & Co., New York.
28. Fresh-water pearls and shells. Tiffany & Co., New York
29. Game heads. Jacob Gunther, Middletown, N. Y.
 Mounted trout and grayling. T. W. Fraine, Rochester, N. Y.
 Artificial flies. S. Howarth, Florissant, Colo.
 California woods. California Paris Exposition commission, San Francisco, Cal.
 Drawing of seal. Century Company, New York.
 Deer hat-rack. C. S. Phillips, Glover, Vt.
30. Rifles. Savage Arms Company, Utica, N. Y.
31. Revolvers. Smith & Wesson, Springfield, Mass.
32. Fishery models. Massachusetts Board Paris Exposition managers, Boston, Mass.
33. Groups of raccoon and opossum. United States Department Agriculture, Washington, D. C.
 Groups of aquatic birds. North Carolina board of agriculture, Raleigh, N. C.
 Sponges. United States Fish Commission, Washington, D. C.
 Fish-transportation car model. United States Fish Commission, Washington, D. C.
 Fish-culture apparatus. United States Fish Commission, Washington, D. C.
34. Mounted half deer. C. S. Phillips, Glover, Vt.
- 34 bis. Buffalo head. Jacob Gunther, Middletown, N. Y.
 Great horned owl. Jacob Gunther, Middletown, N. Y.
 Whaling implements. J. & W. R. Wing, New Bedford, Mass.
 Net corks. Hooper Manufacturing Company, Baltimore, Md.
 Fishing reels. Milam & Son, Frankfort, Ky.
 Walrus drawing. Century Company, New York.
 Fishing implements. Massachusetts board of Paris Exposition managers, Boston, Mass.
 California woods. California Paris Exposition commission, San Francisco, Cal.

KEY TO INSTALLATION FORESTRY AND FISHERIES ANNEX, CHAMP DE MARS.

[See plan of installation in United States forestry annex, Champ de Mars, Group IX.]

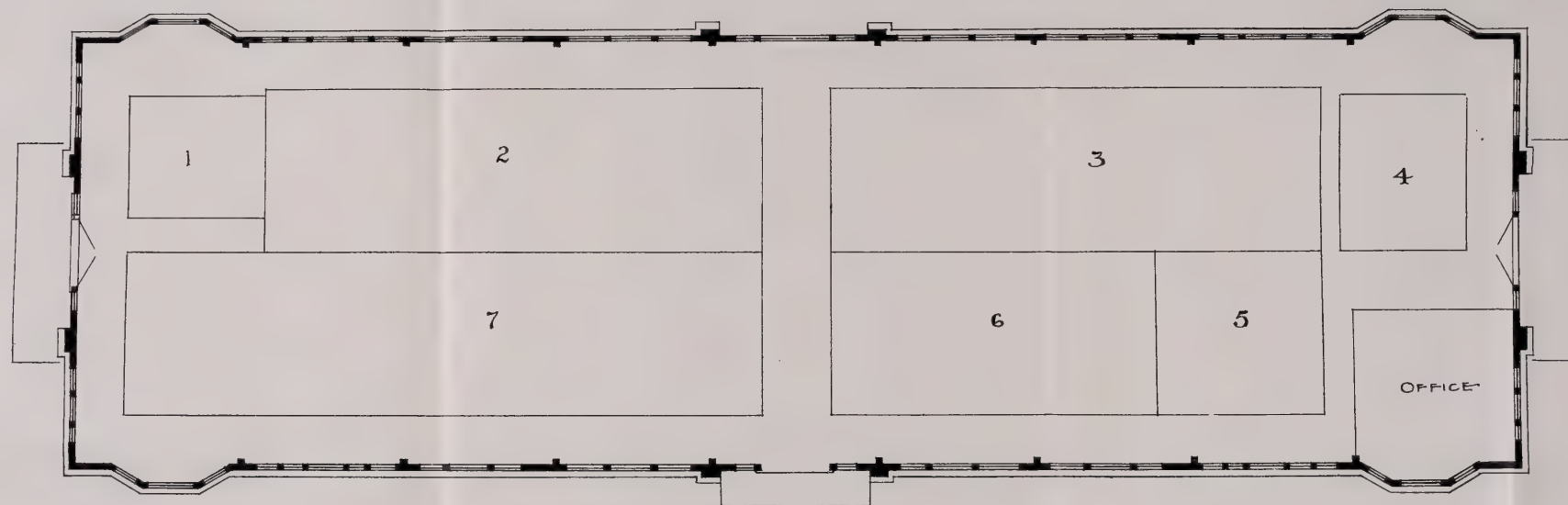
1. Southern woods. Southern Railway Company, Washington, D. C.
2. New York woods. Fisheries, game, and forest commission, Albany, N. Y.
3. California woods. California Paris Exposition commission, San Francisco, Cal.
4. Polished woods. Bridgeport Wood Finishing Company, New Milford, Conn.;
 E. D. Albro & Co., Cincinnati, Ohio.
5. Newhouse trap. Oneida Community, Limited, Kenwood, N. Y.
6. Wooden ware. W. E. Peirce & Co., Milford, N. H.
7. Wooden ware. W. E. Peirce & Co., Milford, N. H.
8. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 8a. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 8b. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 9a. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 9b. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 10a. Newhouse traps. Oneida Community, Limited, Kenwood, N. Y.
- 10b. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 10c. Decorations.
11. California woods. California Paris Exposition commission, San Francisco, Cal.
- 11a. Medicinal plants. North Carolina board of agriculture, Raleigh, N. C.
12. California woods. California Paris Exposition commission, San Francisco, Cal.
- 12a. Medicinal plants. North Carolina board of agriculture, Raleigh, N. C.
13. California woods. California Paris Exposition commission, San Francisco, Cal.
- 13a. Medicinal plants. North Carolina board of agriculture, Raleigh, N. C.

- 13b. California woods. California Paris Exposition commission, San Francisco, Cal.
- 13c. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 14. California woods. California Paris Exposition commission, San Francisco, Cal.
- 14a. Medicinal plants. North Carolina board of agriculture, Raleigh, N. C.
- 15. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 15a. Medicinal plants. North Carolina board of agriculture, Raleigh, N. C.
- 15b. Southern woods. Southern Railway Company, Washington, D. C.
- 16. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 16a. Southern woods. Southern Railway Company, Washington, D. C.
- 16b. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 16c. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 17. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 17a. Southern woods. Southern Railway Company, Washington, D. C.
- 17b. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 18. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 18a. Southern woods and handles. Southern Railway Company, Washington, D. C.
- 18b. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 19a. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 20. Tree sections. Southern Railway Company, Washington, D. C.
- 20a. Tree sections. Southern Railway Company, Washington, D. C.
- 21a. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 21b. North Carolina woods. North Carolina board of agriculture, Raleigh, N. C.
- 21c. Decorations.
- 22. California woods. California Paris Exposition commission, San Francisco, Cal.
- 22a. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 23. California woods. California Paris Exposition commission, San Francisco, Cal.
- 23a. California woods. California Paris Exposition commission, San Francisco, Cal.
- 24. California woods. California Paris Exposition commission, San Francisco, Cal.
- 24a. California woods. California Paris Exposition commission, San Francisco, Cal.
- 24b. American woods. R. B. Hough, Lowville, N. Y.
- 25. California woods. California Paris Exposition commission, San Francisco, Cal.
- 25a. Forestry pictures. California Paris Exposition commission, San Francisco, Cal.
- 25b. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 26. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 26a. Decorations.
- 26b. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 27. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 27a. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 28. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 28a. Wood sections. United States Commission to Paris Exposition, Chicago, Ill.
- 28b. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 29. Wooden ware. W. E. Peirce & Co., Milford, N. H.
- 29a. Wooden ware. W. E. Peirce & Co., Milford, N. H.

KEY TO INSTALLATION FORESTRY ANNEX, VINCENNES.

[See plan of installation of United States forestry annex at Vincennes, Group IX.]

- 1. Cypress shingles. Atlantic Coast Cypress Association, Ferguson, S. C.
- 2. Hard woods.
- 3. North Carolina pine. North Carolina Pine Association.
- 4. Maple flooring. Maple Flooring Manufacturers' Association.
- 5. Yellow pine. Southern Lumber Manufacturers' Association.
- 6. Miscellaneous woods. Baltimore Lumber Exchange, Baltimore, Md.
- 7. Hard woods.



PARIS EXPOSITION OF 1900
PLAN OF INSTALLATION OF
UNITED STATES FORESTRY ANNEX AT VINCENNES
GROUP IX

0 5 10 15 20
Scale of Feet

CLASSIFICATION.

GROUP IX.—FORESTRY, HUNTING, FISHING, GATHERING WILD CROPS.

CLASS 49.—*Appliances and processes used in forestry.*

Collections of seeds. Specimens of indigenous or exotic forest products. Special implements for gathering, preparing, testing, and preserving seeds; drying houses. Implements for nurseries. Equipment for tree culture and forest industries. Processes of culture in nurseries. Processes of culture and of the management of forests. Forest topography. Forest works: Keepers' houses, sawmills, tracks for hauling timber, sanitation, restocking (with animals, etc.). Terracing: Replanting, turfing, etc. Planting to hold the surface of dunes.

CLASS 50.—*Products of the cultivation of forests and of forest industries.*

Specimens of forest products. Wood for cabinet work, for building, for fuel; wood that has been worked; lumber; staves. Dyewoods. Cork; textile barks. Tanning, fragrant, resinous substances, etc. Products of forest industries; coopers' stock, basket work, manufactures of esparto, wooden shoes, wood wool, corks, kiln-dried wood, charcoal, raw potash, etc.

CLASS 51.—*Hunting equipments.*

[Manufacturing appliances and products.]

1. Special machinery and tools used in the manufacture of arms; machines for straightening barrels; special lathes for instantaneous reproductions; machines for finishing the interior boring of barrels; boring machines; machines for punching gun barrels; special machines for making wooden gunstocks; milling machines; machines for reproducing different parts of arms in steel; machines for polishing and finishing tempered pieces. Material and tools for the manufacture of cartridges and ammunition. 2. Side arms. Arms for trophies; copies of ancient weapons. Missile weapons. Bows, crossbows, etc. Firearms, guns, rifles, pistols, etc. Accessories for firearms. Bullets, solid or hollow, explosive. Percussion caps, primers, cartridges. Hunting equipments, appliances for training dogs. Apparatus used in fencing schools.

CLASS 52.—*Products of hunting.*

Collections and drawings of land and amphibious animals, birds, and eggs. Skins and furs in the rough. Skins prepared for the furrier. Taxidermists' work. Hair, horsehair, and bristles. Undressed feathers and bird skins. Horn, ivory, bone, and tortoise shell. Musk, castoreum, civet, etc.

CLASS 53.—*Fishing equipment and products—Fish culture.*

1. Floating appliances used in fishing. Nets, tackle, and implements for sea fishing. Nets, weirs, traps, and appliances for fresh-water fishing. 2. Marine fish culture; fish, crustacea, mollusks, radiates, etc. Fresh-water fish culture; installation, equipment, and processes used in pisciculture; fishways; culture of leeches. 3. Aquariums. 4. Collections and drawings of fish, cetacea, crustacea, mollusks, etc. Pearls, shells, mother-of-pearl. Coral. Sponges. Tortoise shell. Whalebone. Spermaceti. Ambergris. Fish oils and fats.

CLASS 54.—*Appliances for gathering wild crops and products obtained.*

1. Appliances and implements for gathering the products of the soil obtained without culture. 2. Mushrooms. Truffles. Edible wild fruits. Plants, roots, barks, leaves, fruits obtained without cultivation and used by herbalists, in pharmacy, dyeing, the manufacture of paper, oils, or for other purposes. India rubber; gutta-percha. Gums and resins.

CATALOGUE OF EXHIBITORS IN THE DEPARTMENT OF FORESTRY, HUNTING, FISHING,
GATHERING WILD CROPS—GROUP IX.CLASS 49.—*Appliances and processes used in forestry.*

Department of Agriculture, U. S. A., Washington, D. C.: Photographs and writings pertaining to forests, their destruction, their preservation, and their relations to agriculture.

California Paris Exposition commission, San Francisco: Forestry photographs.

Fisheries, game, and forest commission of New York, Albany: Seventy specimens of New York native woods.

Forest and Stream Publishing Company, 346 Broadway, New York: Publications—Forest and Stream Journal; books upon outdoor sports.

Hough, Dr. Franklin B., Lowville, N. Y.: Publications relating to forestry.

Hough, Romeyn B., Lowville, N. Y.: Photographs of typical trees, illustrating their manner of growth.

Southern Railway Company, 719 Thirteenth street NW., Washington, D. C.: Photographs showing the processes of logging, milling, and transporting lumber.

CLASS 50.—*Products of the cultivation of forests and of forest industries.*

Albro, E. D., & Co., 1025 West Sixth street, Cincinnati, Ohio: Veneers and hard woods.

Bean, Tarleton H., 50 West Seventeenth street, New York: A cigar case made by Alaskan native on the island of Atka, from a native wild grass.

Bridgeport Wood Finishing Company, New Milford, Conn.: Finished hard woods.

California Paris Exposition Commission of 1900, Occidental Hotel, San Francisco, Cal.: Collective exhibit of woods for building and cabinetwork.

Department of forestry, United States Commission to Paris: Thin sections of woods of the United States, representing more than 250 species.

Fisheries, game, and forest commission of New York, Albany, N. Y.: Species of native commercial woods of the State of New York.

Forest and Stream Publishing Company, New York City: Publications and illustrations.

Hough, R. B., Lowville, N. Y.: Preparations of wood for the stereopticon and for the microscope; also publication entitled American Woods.

North Carolina State Board of Agriculture, Raleigh, N. C.: Commercial woods of North Carolina.

Peirce, W. E., & Co., Milford, N. H.: Collection of wooden ware.

Price, W. S., Manufacturers Record building, Baltimore, Md.: Collective exhibit of oak and other hard woods.

Southern Railway Company, 719 Thirteenth street NW., Washington, D. C.: Collection of woods of the southern United States. The logs, lumber, etc., used in the construction of the annex to forestry building.

Commercial forestry exhibit, Vincennes.

[Too late for jury examination.]

Contributing exhibitors:

C. L. Adler, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.

The E. D. Albro Company, Cincinnati, Ohio: Veneers and general hard woods.

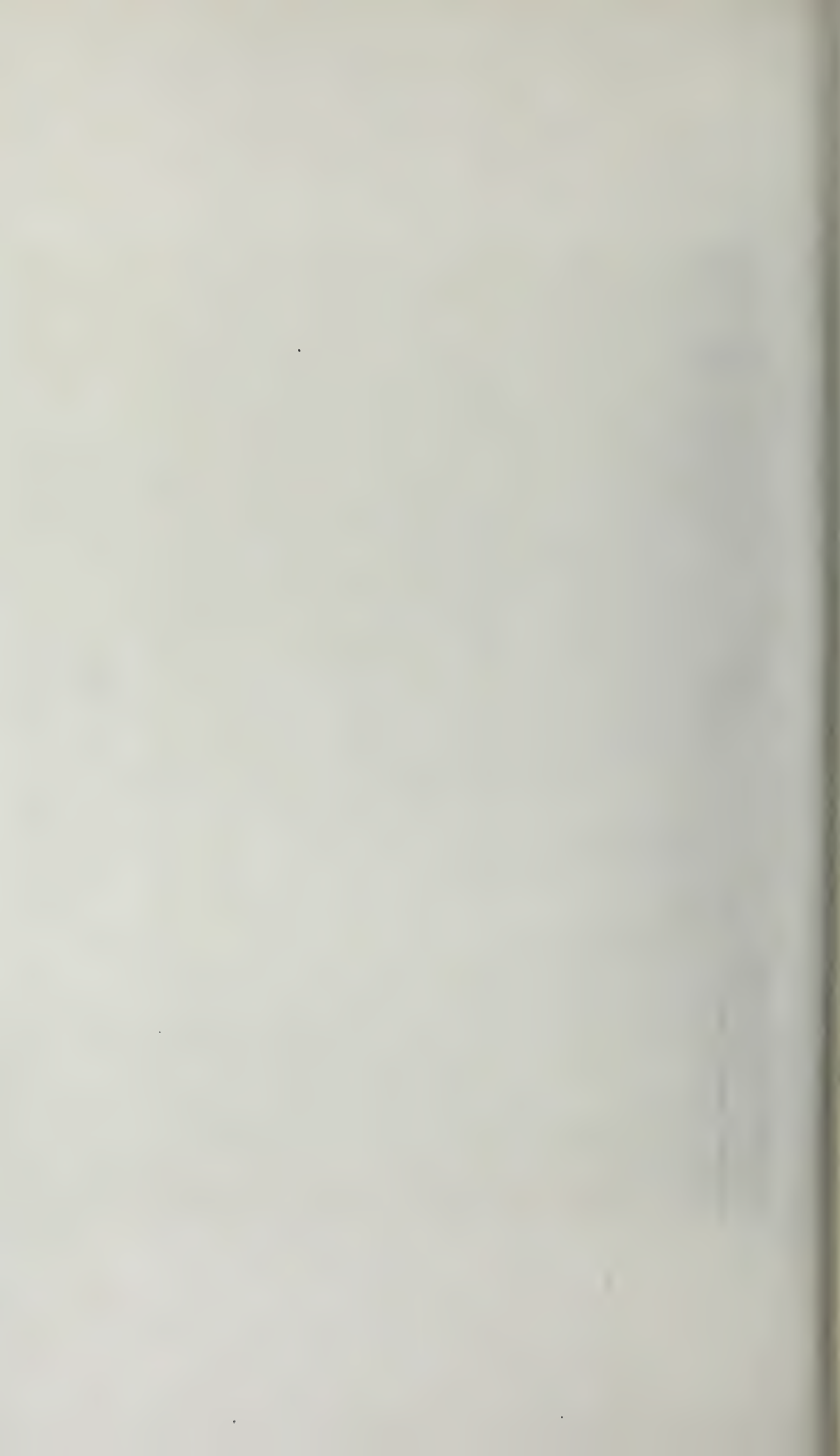
Alcee, Stewart & Co., St. Louis, Mo.: General hard woods.

American Hard Wood Company, Nashville, Tenn.: General hard woods.

American Lumber and Manufacturing Company, Pittsburg, Pa.: White and yellow pine and general hard woods.

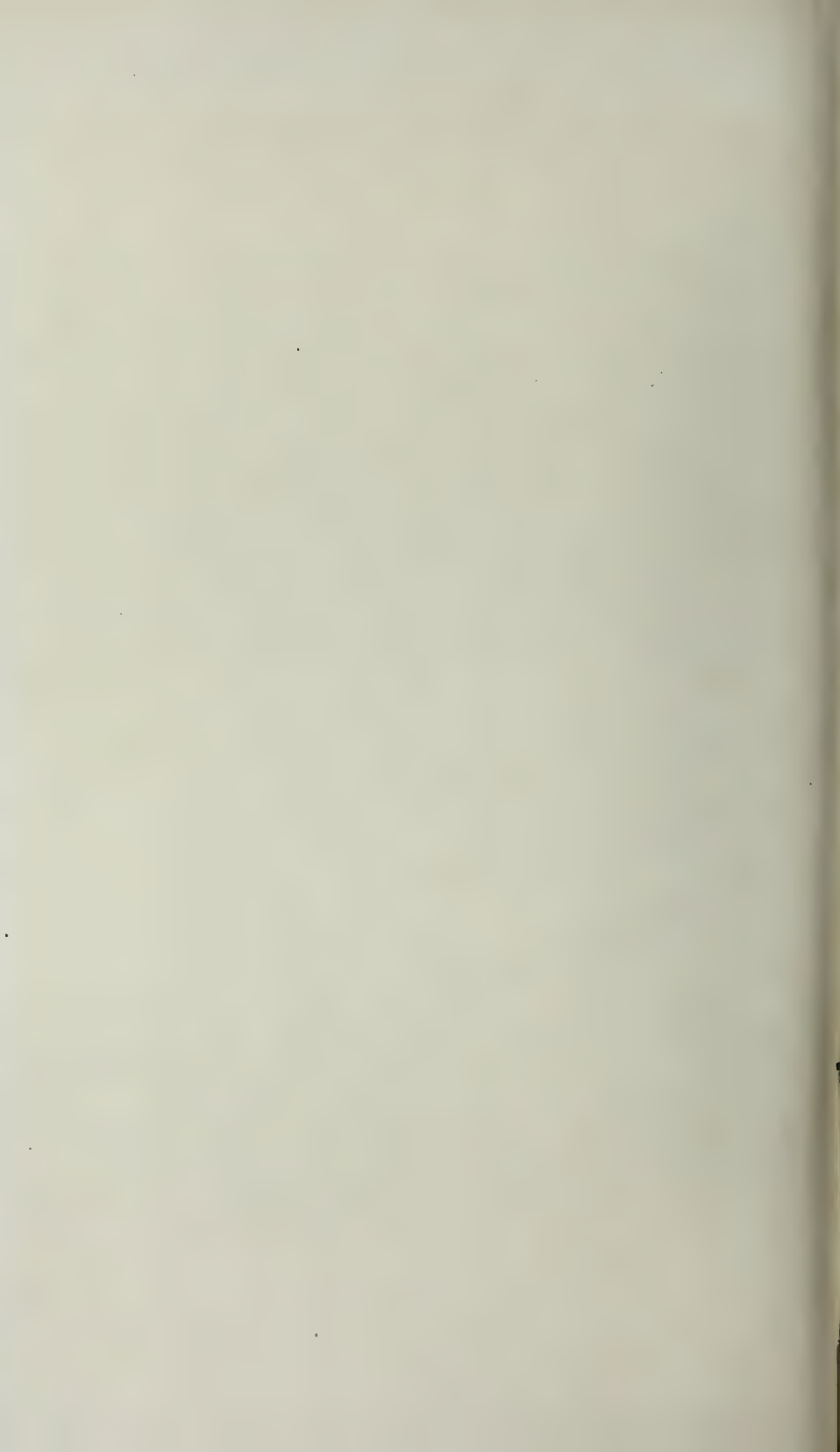


G-1. UNITED STATES FORESTRY ANNEX, CHAMP DE MARS. FRONT VIEW FROM SOUTHEAST AND OUTSIDE EXHIBIT SHELTER.





G-3. UNITED STATES FORESTRY ANNEX, CHAMP DE MARS. INTERIOR VIEW LOOKING NORTHWEST.



Contributing exhibitors—Continued.

- Anderson-Tully Company, Memphis, Tenn.: Box shooks, poplar, oak, and gum, and veneers.
- E. V. Babcock & Co., Pittsburg, Pa.: Hemlock, white and yellow pine, general hard woods.
- Leland G. Banning, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Barksdale, Denton & Co., Memphis, Tenn.: General hard woods.
- C. H. Barnaby, Greencastle, Ind.: Quartered oak, walnut, and ash.
- W. I. Barr, Greenfield, Ohio: Plain and quartered oak.
- William E. Barrett & Co., Grand Rapids, Mich.: General hard woods.
- B. Beimforde, Cincinnati, Ohio: General hard woods.
- Ira B. Bennett, Detroit, Mich.: General hard woods.
- E. T. Bennett & Co., Memphis, Tenn.: Ash, gum, and cottonwood.
- Bennett & Witte, Cincinnati, Ohio: Yellow poplar and yellow cottonwood.
- Bliss & Van Auken, Saginaw, Mich.: Hemlock, maple, and general hard woods.
- Bonsack Lumber Company, St. Louis, Mo.: General hard woods.
- Bowman Lumber Company, St. Albans, W. Va.: Yellow poplar lumber.
- B. Braughton & Co., Memphis, Tenn.: General hard woods.
- The Ferd. Brenner Lumber Company, Chattanooga, Tenn.: Oak, ash, walnut, and general hard woods.
- James T. Buckley, Brookville, Ind.: Oak, ash, walnut, and general hard woods.
- Buffalo Hard Wood Lumber Company, Buffalo, N. Y.: General hard woods.
- Burt & Brabb Lumber Company, Ford, Ky.: Poplar, oak, and walnut.
- Chippewa Logging & Boom Company, Chippewa Falls, Wis.: White pine.
- Christian Brothers, Junction City, Ky.: General hard woods.
- Cochran Lumber Company, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Frederick W. Cole, New York, N. Y.: White pine and general hard woods.
- C. L. Colman, La Crosse, Wis.: White pine.
- Combs Lumber Company, Lexington, Ky.: General hard woods.
- The Crosby & Beckley Company, New Haven, Conn.: Poplar and general hard woods.
- Cypress Lumber Company, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Daniels & Collin Company, Pittsburg, Pa.: General hard wood, white and yellow pine.
- J. W. Darling, Cincinnati, Ohio: Cottonwood and gum.
- R. J. Darnell, Memphis, Tenn.: General hard woods.
- I. M. Darnell & Son Company, Memphis, Tenn.: Quartered oak, gum, poplar, and walnut.
- W. V. Davidson Lumber Company, Nashville, Tenn.: Yellow poplar, oak, and ash.
- Day Brothers Lumber Company, Jackson, Ky.: Yellow poplar and oak.
- De Montcourt & Ohara, Cairo, Ill.: Oak, cottonwood, gum, and ash.
- Devereux Lumber Company, Charleston, W. Va.: Poplar and oak.
- C. W. Dewey, Rockford, Ill.: General hard woods.
- John Dulweber & Co., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- H. G. Dykhouse, Grand Rapids, Mich.: General hard woods.
- E. L. Edwards, Dayton, Ohio: White and yellow pine.
- Empire Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- English & Co., Knoxville, Tenn.: General hard woods.
- M. B. Farrin, Cincinnati, Ohio: Yellow pine, poplar, cottonwood, oak.
- Theo. Fathauer, Chicago, Ill.: Maple, basswood, and Wisconsin red oak.

Contributing exhibitors—Continued.

- The Fisher Wilson Company, Cleveland, Ohio: White and yellow pine, general hard woods.
- Flint, Erving & Lindsay, Pittsburg, Pa.: White and yellow pine and general hard woods.
- W. Forgie, Washington, Pa.: General hard woods.
- A. V. Fuhrmann, Cincinnati, Ohio: General hard woods and yellow pine.
- Gage & Possell, Cincinnati, Ohio: Oak, ash, hickory, walnut, and general hard woods.
- D. L. Gillespie & Co., Pittsburg, Pa.: General hard woods.
- Gladden Lumber Company, Indianapolis, Ind.: General hard woods.
- Glen Jean Lumber Company, Glen Jean, W. Va.: General hard woods.
- Goodman & Wright, Cincinnati, Ohio: Yellow pine and cypress.
- Graham Lumber Company, Cincinnati, Ohio: Yellow poplar, plain and quartered oak.
- Lloyd G. Harris Manufacturing Company, St. Louis, Mo.: General hard woods.
- Heath, Witbeck & Co., Chicago, Ill.: Poplar, ash, oak, maple, and general hard woods.
- Himmelberger-Luce Land and Lumber Company, Morehouse, Mo.: Oak, ash, and gum.
- H. C. Hossafous, Dayton, Ohio: General hard woods.
- Houck & Ely, Dayton, Ohio: Quartered oak and walnut.
- John W. Hussey, New York, N. Y.: General hard woods.
- James Lumber Company, Charleston, W. Va.: Poplar and oak.
- Robert H. Jenks Lumber Company, Cleveland, Ohio: White and yellow pine, general hard woods.
- Kaul & Hall Lumber Company, St. Marys, Pa.: Hemlock, cherry, oak, and chestnut lumber.
- Kelly Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- Kelly Shingle Company, Traverse City, Mich.: General hard woods.
- W. O. King & Co., Chicago, Ill.: Maple and Wisconsin red oak.
- B. A. Kipp & Co., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- The Kirk-Christy Company, Cleveland, Ohio: Yellow poplar, plain and quartered oak.
- Knoxville Sawmill Company, Knoxville, Tenn.: General hard woods.
- Laird-Norton Company, Winona, Minn.: White pine.
- Aug. J. Lang, St. Louis, Mo.: General hard woods.
- Lesh & Matthews Lumber Company, Chicago, Ill.: Walnut, quartered oak, ash, gum, and general hard woods.
- Frank Littleford & Bro., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Love, Boyd & Co., Nashville, Tenn.: Yellow poplar, oak, and ash.
- Chas. F. Luehrmann Hard Wood Lumber Company, St. Louis, Mo.: General hard woods.
- A. J. McCausland Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- Moore & McFerren, Memphis, Tenn.: Cottonwood and gum.
- Henry Maley, Edinburg, Ind.: Plain and quartered white and red oak.
- Maley Thompson & Moffett, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- C. C. Mengel, jr., & Bro. Company, Louisville, Ky.: Cottonwood, gum, oak, ash.
- Mohler Lumber Company, Lock Seven, W. Va.: Poplar and oak.
- Murphy, Diebold & Sons, Memphis, Tenn.: Gum, cottonwood, and oak.

Contributing exhibitors—Continued.

- D. H. Myers, Richmond, Ky.: General hard woods.
Nelson Tuthill Lumber Company, Minneapolis, Minn.: White pine.
Nicola Brothers Company, Pittsburg, Pa.: White and yellow pine and general hard woods.
F. I. Nichols & Co., Grand Rapids, Mich.: General hard woods.
H. M. Nixon Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
Northern Lumber Company, Cloquet, Minn.: White pine.
Pine Tree Lumber Company, Little Falls, Minn.: White pine.
Plummer-Benedict Lumber Company, St. Louis, Mo.: General hard woods.
John B. Ransom & Co., Nashville, Tenn.: Yellow poplar, oak, and ash.
Retail Lumber Dealers' Association of the State of Indiana.
W. M. Ritter, Columbus, Ohio: Poplar, plain and quartered oak, and white pine.
Royal & Soper Company, Nicholasville, Ky.: General hard woods.
Russe & Burgess, Memphis, Tenn.: Oak, ash, gum, cottonwood, and general hard woods.
Saginaw Lumber Dealers' Association, Saginaw, Mich.
Chas. A. Sand, Grand Rapids, Mich.: General hard woods.
Saxton & Co., Knoxville, Tenn.: General hard woods.
Shepard, Farmer & Co., Boston, Mass.: Quartered oak and general hard woods.
Shevlin Carpenter Company, Minneapolis, Minn.: White pine.
F. H. Smith & Co., St. Louis, Mo.: General hard woods.
C. A. Smith Lumber Company, Minneapolis, Minn.: White pine.
E. R. Spotswood & Son, Lexington, Ky.: Yellow poplar and oak.
Steele & Hibbard, St. Louis, Mo.: General hard woods.
M. E. Stockwell & Co., Grand Rapids, Mich.: General hard woods.
T. B. Stone Lumber Company, Cincinnati, Ohio.: Yellow poplar, oak, ash, and general hard woods.
George W. Stoneman, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
Strifler & Wehinger Lumber Company, St. Louis, Mo.: General hard woods.
Sunflower Lumber Company, Doddsville, Miss.: General hard woods.
Swagerty & Eubank, Knoxville, Tenn.: General hard woods.
Swain Brothers, Winton Place, Ohio: Plain and quartered oak, ash, and walnut.
W. R. Tabor & Co., Rothwell, Ky.: General hard woods.
J. W. Thompson Lumber Company, Memphis, Tenn.: Oak, ash, cottonwood, gum, and walnut.
Three States Lumber Company, Cairo, Ill.: Cottonwood, gum, oak, and ash.
Trump Lumber Company, St. Louis, Mo.: General hard woods.
Vansant, Kitchen & Co., Ashland, Ky.: Yellow poplar, plain and quartered oak, and general hard woods.
Vinnedge Brothers, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
J. P. Walters Lumber Company, Crawfordsville, Ind.: Plain and quartered oak.
Isaac L. Watts, Memphis, Tenn.: Thin plain and quartered oak, gum, and ash.
Louis Werner Sawmill Company, St. Louis, Mo.: General hard woods.
W. M. Weston Company, Boston, Mass.: Quartered oak and walnut.
R. B. Wheeler & Co., Philadelphia, Pa.: General hard woods.
Wiborg, Hanna & Co., Cincinnati, Ohio.: Yellow poplar, oak, ash, and general hard woods.
Wood-Barker Company, Boston, Mass.: Cypress, yellow pine, and general hard woods.
Yellow Poplar Lumber Company, Coalgrove, Ohio: Yellow poplar and oak.
Zeigler & Reinwald, Carmi, Ill.: General hard woods.

North Carolina Pine Association:

Camp Manufacturing Company, Franklin, Va.
 Branning Manufacturing Company, Edenton, N. C.
 John L. Roper Lumber Company, Norfolk, Va.
 Surry Lumber Company (R. T. Waters & Son), Baltimore, Md.
 Greenleaf Johnson Lumber Company, Norfolk, Va.
 Roanoke Railroad and Lumber Company, Norfolk, Va.
 Atlantic Coast Lumber Company, Norfolk, Va.
 Tunis Lumber Company, Norfolk, Va.
 The Cummer Company, Norfolk, Va.
 Cape Fear Lumber Company, Wilmington, N. C.
 Frank Hitch Lumber Company, Norfolk, Va.
 Eureka Lumber Company, Washington, N. C.
 Suffolk Saw Mill Company, Suffolk, Va.
 George F. Sloan & Bro., Baltimore, Md.
 Alfred B. Cramer, Suffolk, Va.
 Alleghany Lumber Company, Washington, N. C.
 Butters Lumber Company, Boardman, N. C.
 Dennis-Simmons Lumber Company, Williamston, N. C.
 Pungo Lumber Company, Washington, N. C.

Southern (Pitch Pine) Lumber Manufacturers' Association:

Sample Lumber Company, Hollins, Ala.
 Lathrop, Hatten Lumber Company, Riverside, Ala.
 Eastman, Gardiner & Co., Laurel, Miss.
 M. R. Grant, Meridian, Miss.
 A. W. Stevens, Chattawa, Miss.
 Eastabuchie Lumber Company, Eastabuchie, Miss.
 J. J. White, McComb City, Miss.
 A. L. Linehard, Handsboro, Miss.
 J. T. Arnold, Curren, Miss.
 St. Louis Refrigerator and Wooden Gutter Company, St. Louis, Mo.
 Chicago Lumber and Coal Company, St. Louis, Mo.
 C. J. Carter Lumber Company, Kansas City, Mo.
 W. R. Pickering Lumber Company, Kansas City, Mo.
 Central Coal and Coke Company, Kansas City, Mo.
 Missouri Lumber and Mining Company, Grandin, Mo.
 William Carlisle & Co., Atchison, Kans.
 Hudson River Lumber Company, Hudson, Ark.
 Eagle Lumber Company, Eagle Mills, Ark.
 Junction City Lumber Company, Junction City, Ark.
 Fordyce Lumber Company, Fordyce, Ark.
 Lester Mill Company, Lester, Ark.
 Klondike Lumber Company, Winthrop, Ark.
 A. J. Kiser, Rankin, Ark.
 H. C. McDaniels Lumber Company, Eldorado, Ark.
 Summit Lumber Company, Upland, Ark.
 Big Creek Lumber Company, Pollock, La.
 Allen Bros. & Wadley, Allentown, La.
 Allen & Curry, Shreveport, La.
 Amos Kent Lumber and Brick Company, Kentwood, La.
 Perkins & Miller Lumber Company, West Lake, La.
 Whited & Wheless, Limited, Allen Bridge, La.
 Central Lumber Company, Limited, Lincecum, La.
 Montrose Lumber Company, Montrose, La.

Southern (Pitch Pine) Lumber Manufacturers' Association—Continued.

E. G. Swartz, Swartz, La., and Kansas City, Mo.
 Natalbany Lumber Company, Natalbany, La.
 Globe Lumber Company, Yellow Pine, La.
 King-Ryder Lumber Company, Thomasville, Ind. T.
 Reliance Lumber Company, Beaumont, Tex.
 Kingston Lumber Company, Laurel, Miss.
 Moreton & Helms Lumber Company, Brookhaven, Miss.
 J. J. Newman Lumber Company, Hattiesburg, Miss.
 Champion Lumber Company, Orvisburg, Miss.
 Enochs Brothers, Fernwood, Miss.
 W. W. Lambert, Poplarville, Miss.
 Horseshoe Lumber Company, River Falls, Ala.
 Milner, Caldwell & Flowers, Bolling, Ala.
 W. W. Wadsworth, Wadsworth, Ala.
 Wagar Lumber Company, Wagar, Ala.
 Vinegar Bend Lumber Company, Vinegar Bend, Ala.
 J. W. Bollin, Wilsonville, Ala.
 E. E. Jackson Lumber Company, Riderville, Ala.; Washington, D. C.
 H. H. Tift, Tifton, Ga.
 J. S. Bailey & Co., McDonald's Mill, Ga.
 The Cummer Lumber Company, Jacksonville, Fla.

Maple Flooring Manufacturers' Association:

The Buffalo Maple Flooring Company, Buffalo, N. Y.
 Dwight Lumber Company, Detroit, Mich.
 Thomas Forman Company, Petoskey, Mich.
 Rittenhouse & Embree Company, Chicago, Ill.
 South Side Lumber Company, Chicago, Ill.
 Henry Stephens & Co., Detroit, Mich.
 The T. Wilce Company, Chicago, Ill.
 Wilson Land and Lumber Company, Hermansville, Mich.
 W. D. Young & Co., West Bay City, Mich.

CLASS 51.—*Hunting equipments.*

Barnard, George, & Co., New York (in class 100): Sporting arms.
 Forest and Stream Publishing Company, New York: Publications and illustrations.
 Oneida Community, Limited, Kenwood, N. Y.: The Newhouse animal trap.
 Savage Arms Company, Utica, N. Y.: Repeating rifles.
 Smith & Wesson, Springfield, Mass.: Revolvers and pistols, and shooting gallery at Vincennes.
 Tiffany & Co., New York City: Hunting equipments.

CLASS 52.—*Products of hunting.*

Asch & Jaeckel, New York (in class 85): Manufactured furs and skins.
 Century Company, New York: Drawings of seals, sea lions, etc., made by Charles B. Hudson.
 Department of Agriculture, U. S. A., Washington, D. C.: Mounted groups of raccoons and opossums.
 Elliot, Dr. D. G., Field Columbian Museum, Chicago: Publications upon birds.
 Forest and Stream Publishing Company, New York: Publications and illustrations.
 Gunther, J., Middletown, N. Y.: Mounted heads of wild animals.

- Hudson, Charles B., New York: Drawings of seals, sea lions, etc., loaned by the Century Company, New York.
- Jordan, Dr. David Starr, Stanford University, Cal.: Publications upon birds, mammals, etc.
- Mather, Fred, Lake Nebagomoin, Douglas County, Wis.: Publication upon hunting.
- Nelson, E. W., Washington, D. C.: Report upon collections made in Alaska.
- North Carolina State board of agriculture, Raleigh, N. C.: Series of aquatic birds, groups of loons, and quail.
- Phillips, C. S., Glover, Vt.: Mounted heads, etc., of deer.
- Shiras, George, 3d, Pittsburg, Pa.: Flash-light pictures of living wild animals.
- Wallihan, A. G., Lay, Colo.: Photographs of wild game.

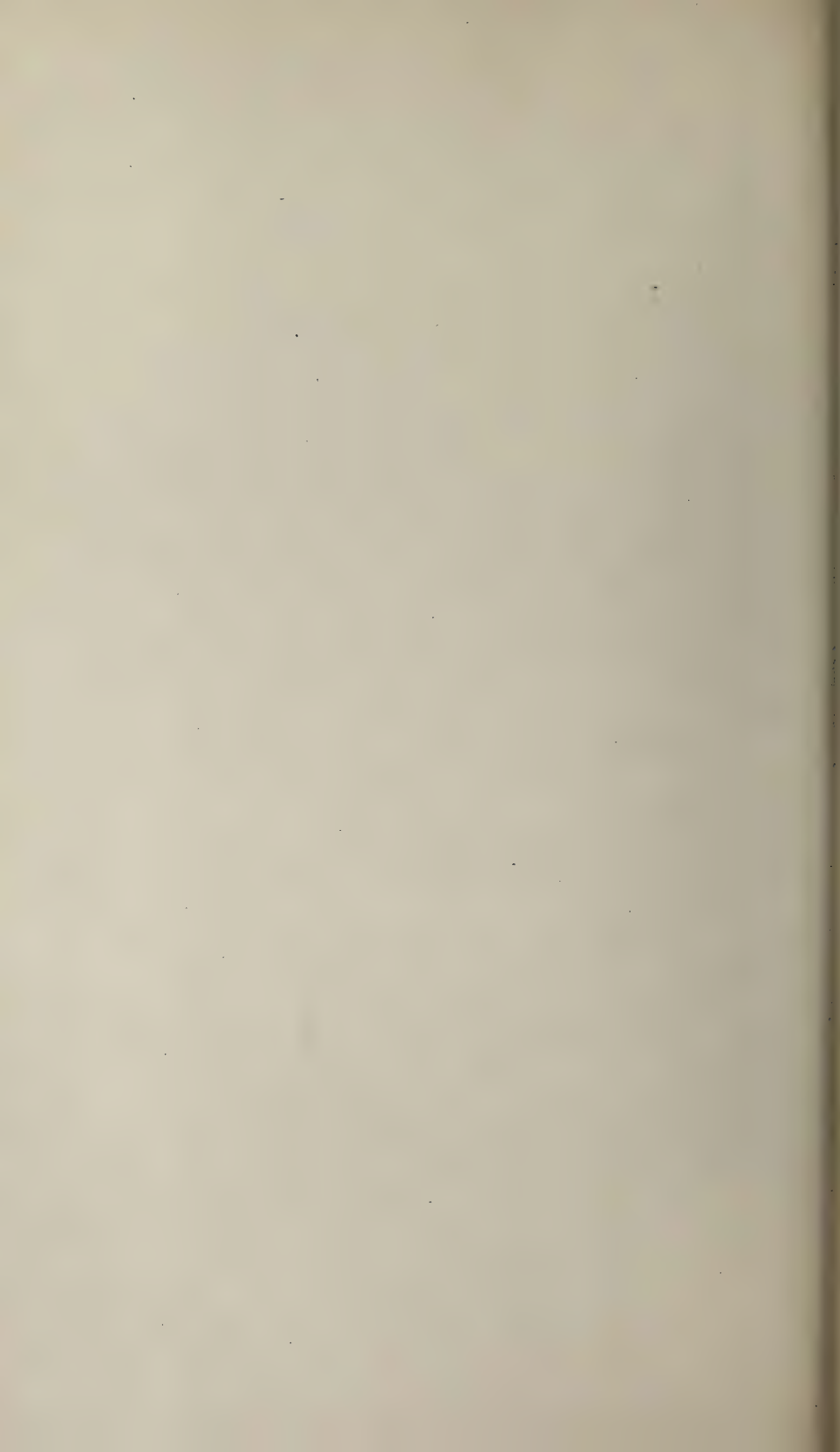
CLASS 53.—*Fishing equipment and products—Fish culture.*

- Abbey & Imbrie, New York City: Angling tackle.
- American Museum of Natural History, Central Park, New York: Mounted lobster. Weighed 33 pounds when alive.
- American Net and Twine Company, 93 Commercial street, Boston, Mass.: Fishing nets.
- Atwater, Prof. W. O., chemical laboratory, Wesleyan University, Middletown, Conn.: Publication upon chemical analyses of fishes and invertebrates.
- Baldwin, A. H., zoological artist, 1826 G street, Washington, D. C.: Fish drawings.
- Bean, Barton A., U. S. National Museum, Washington, D. C.: Publications upon fishes.
- Bean, Tarleton H., 50 West Seventeenth street, New York City: Gill nets, fishing line, and salmon spear used by Alaskan Eskimo; publications on fish, fisheries, and fish culture.
- Benn, John, San Francisco, Cal.: Artificial flies.
- Bien, Julius, & Co., 140 Sixth avenue, New York: Chromolithographs of fish drawings.
- Blackford, Dr. C. M., jr., Craig Brook Station, East Orland, Me.: Publications upon fish culture.
- Bumpus, Prof. H. C., Brown University, Providence, R. I.: Publications upon marine zoology.
- California Paris Exposition commission, San Francisco, Cal.: Fishery apparatus and illustrations; fish casts.
- Dean, Dr. Bashford, Columbia University, New York: Publications upon development and relationships of fishes, etc.
- Department of Forestry and Fisheries, United States Commission to Paris: Photographs of persons eminent as investigators and authors in various branches of natural history.
- Eigenmann, Prof. C. H., Indiana University, Bloomington, Ind.: Publications upon fishes and other aquatic animals.
- Evermann, Dr. B. W., United States Fish Commission, Washington, D. C.: Publications upon fishes of North America, West Indies, etc.
- Forest and Stream Publishing Company, New York: Publications and illustrations.
- Fraine, Thomas W., 16 Joslyn Park, Rochester, N. Y.: Rainbow trout, Sunapee trout, and grayling.
- Green, Monroe A., Rochester, N. Y.: Box for transporting eggs of fish; artificial flies on barbless hooks.
- Henshall, Dr. J. A., Bozeman, Mont.: Publications upon fishes.
- Hooper, W. J., Manufacturing Company, 116 South street, Baltimore, Md.: Models of seines, nets, and traps used in the fisheries.
- Howarth, S., Florissant, Colo.: Artificial flies for trout and grayling.
- Jordan, Dr. David Starr, Leland Stanford, jr., University, Cal.: Publications upon fishes, cetacea, etc.

- Kendall, Dr. W. C., United States Fish Commission, Washington, D. C.: Publications relating to fish, fisheries, and fish culture.
- Kirsch, P. H., Benson, Ariz.: Publications on fishes.
- Kofoed, Prof. C. A., Illinois State Laboratory of Natural History, Urbana, Ill.: Publications upon fresh-water zoology.
- Linton, Prof. Edwin, biological laboratory, Washington and Jefferson College, Washington, Pa.: Publications upon fish parasites.
- McCarthy, Eugene, Syracuse, N. Y.: Publications upon fish and fishing.
- Massachusetts board of Paris Exposition managers, Boston: Model of Gloucester fishery and fishery apparatus.
- Mather, Fred, 63 Linden street, Brooklyn, N. Y.: Publications upon fish and fishing.
- Meek, Seth Eugene, Field Columbian Museum, Chicago: Publications upon fish.
- Milam, B. C., & Son, Frankfort, Ky.: Fishing reels.
- New Bedford Oil Company, East Boston, Mass.: Watch, clock, and chronometer oils.
- Rogers, W. H., 257 Washington street, Boston, Mass.: Drawings of the Rogers fishway.
- Smith, Hugh M., United States Fish Commission, Washington, D. C.: Publications upon fish and fisheries.
- Smith, Eugene, 317 Washington street, Hoboken, N. J.: Publications upon fish and reptiles.
- Smith, Jay C., 26 T Wharf, Boston, Mass.: Models of lobster-fishing vessel and apparatus.
- Stejneger, Dr. Leonhard, United States National Museum, Washington, D. C.: Publications upon fur seal, sea cow, natural history of Commander Islands, etc.
- Stevenson, C. H., United States Fish Commission, Washington, D. C.: Publications upon fishery methods and preservation of fish for food.
- Tanner, Commander Z. L., U. S. N., 1613 New Hampshire avenue, Washington, D. C.: Publication upon deep-sea investigation.
- Tiffany & Co., Union Square, New York: American fresh-water pearls and shells in which they are found.
- Titcomb, John W., president of the fish and game commission, St. Johnsbury, Vt.: Publications relating to fish, fisheries, and fish culture.
- True, Dr. F. W., United States National Museum, Washington, D. C.: Publication relating to the delphinidæ.
- United States Commission of Fish and Fisheries, Washington, D. C.: Models of apparatus for hatching and transporting fish; models and drawings of fishes. Photographs and statistics.
- Wilcox, W. A., United States Fish Commission, Washington, D. C.: Publications relating to fish, fisheries, and fish culture.
- Wing, J. & W. R., New Bedford, Mass.: Whaling implements.
- Woolman, Prof. A. J., Central High School, Duluth, Minn.: Publications relating to fish and fisheries.

CLASS 54.—*Appliances for gathering wild crops, and products obtained.*

- North Carolina State board of agriculture, Raleigh, N. C.: Collection of herbs, roots, barks, seeds, etc., used in medicine.



DIRECTOR'S NARRATIVE, DEPARTMENT OF FORESTRY AND FISHERIES.

PERSONNEL OF THE DEPARTMENT.

The director of the department was appointed on April, 1, 1899, with headquarters first at Washington, D. C., and soon after in Chicago, Ill. No assistants were assigned to this department until June 15, 1899, when Mr. W. W. Ashe was engaged as an expert in the collection and preparation of materials for the scientific forestry exhibit. Mr. Ashe was placed under the immediate direction of Mr. Gifford Pinchot, forester of the Department of Agriculture. The work upon which he was employed is sufficiently described in the chapter on the forest exhibit of the United States Department of Agriculture, at Paris.

On July 25, 1899, Mr. A. H. Winchester, of Buckhannon, W. Va., was engaged as an expert in promoting the exhibit of commercial forestry, his special duties consisting in personally interviewing prominent lumbermen, and other representatives of the forest industries, with a view to securing their cooperation and financial assistance in establishing a great commercial forest exhibit at the Exposition. Mr. Winchester was able to continue his work only up to a certain point, that is, until it appeared that a sufficient number of guaranties had been given to warrant the belief that the commercial forestry interests would be adequately represented at Paris. At his suggestion, and chiefly through his efforts, an honorary advisory board of lumbermen was designated by the Commissioner-General of the United States, to put into effect the plans elaborated by the commission.

This board elected its chairman, vice-chairman, treasurer, and secretary. The chairman was Mr. William A. Bennett, of Cincinnati. The secretary was Mr. John E. Williams, of Chicago. A complete list of the members of the board follows herewith:

Honorary Advisory Board for Commercial Forestry to the Department of Forestry and Fisheries.—W. A. Bennett, chairman, Cincinnati, Ohio; S. H. Fullerton, vice-chairman, St. Louis, Mo.; Hon. George M. Curtis, treasurer, Clinton, Iowa, executive committee.

John E. Williams, secretary to the advisory board.

Honorary advisory board: W. S. Price, Baltimore, Md.; Capt. John L. Roper, Norfolk, Va.; Mort. L. Bixler, Beaumont, Tex.; Silas W. Gardiner, Laurel, Miss.;

F. H. Lathrop, Riverside, Ala.; S. H. Fullerton, St. Louis, Mo.; John N. Scatcherd, Buffalo, N. Y.; W. A. Bennett, Cincinnati, Ohio; B. F. Nelson, Minneapolis, Minn.; C. A. Hooper, San Francisco, Cal.; E. M. Herrick, San Francisco, Cal.; Hon. A. G. Foster, Tacoma, Wash.; W. S. Harvey, Philadelphia, Pa.; Chas. Cristadoro, St. Paul, Minn.; O. J. Hill, Kansas City, Mo.; Hon. Geo. M. Curtis, Clinton, Iowa; Walker L. Wellford, Memphis, Tenn.; W. D. Young, West Bay City, Mich.; John Higman, St. Joseph, Mich.; W. M. Ritter, Columbus, Ohio; Geo. M. Bowie, Whitecastle, La.

On December 14, 1899, Chairman Bennett was appointed honorary special agent for the Commissioner-General of the United States in the department of forestry and fisheries, and Mr. John E. Williams, on the same date, was designated as an honorary expert in the same department. The special work of these two gentlemen related to the completion of the commercial forestry exhibit at Vincennes.

On July 15, 1899, Mr. William H. Mills, of the Southern Pacific Company, San Francisco, was appointed an honorary expert in the department of forestry and fisheries, with special reference to his cooperation in securing contributions of forestry exhibits from California, Oregon, and other States traversed by the lines of the Southern Pacific Company. On August 10, 1899, Mr. Thomas Hatch was also appointed an honorary expert in the department, on account of his comprehensive knowledge of the forest resources of California.

An arrangement was entered into with Romeyn B. Hough, Lowville, N. Y., to prepare for the Commissioner-General as large a series as possible of thin sections of North American woods, similar in style and execution to the illustrations contained in his work entitled *American Woods*. In carrying out this plan Mr. Hough visited Oregon, California, and other Western States and Territories to secure materials for sections in addition to such as he already had in his possession. The outcome of this work was the creation of a collection numbering more than 250 species, the largest and most valuable series of the kind in existence.

Until October 24, 1899, the department depended upon details from the general offices of the commission in Chicago for such clerical work as was required, but after that date, and until September 15, 1900, Mr. Harry Farmer performed the duties of stenographer and typewriter.

The firm of Abbey & Imbrie, of New York City, was requested to send to Paris a thoroughly comprehensive and adequate collection of modern angling tackle, representing the present development of the art of manufacture in the United States. Mr. Andrew C. Imbrie took the subject especially under his charge, and is to be chiefly credited with the substantial success of the collection as it appeared in the United States section at Paris.

When the preliminary work of the promotion of the exhibits was nearly completed, steps were taken to prepare the exhibits for shipment to Paris, and, as far as possible, for their installation. To this

end several additional appointments were made early in the year 1900. Mr. John C. Van Hook, of Helena, Mont., was appointed an expert in the department January 10, 1900, and continued in the service during the entire period of the Exposition and until the return of the exhibits to their owners. Mr. William E. Morgan, of Gerrardstown, W. Va., was appointed an expert in the department on January 10, 1900, and continued in the service in Washington and Paris until September 30, 1900. Mr. G. F. Greene, of Toccoa, Ga., was designated an expert on February 1, 1900, and remained in the service of the Commission until June 15 of that year. Mr. Richard Wiener-Weinberger was appointed expert in commercial forestry on March 1, 1900, and his term of service closed December 15 of the same year. After the departure of Mr. Farmer Miss Elizabeth Bradley, of New York City, was employed as stenographer from October 16, 1900, to January 10, 1901.

Paul Gillard and John Wildman were engaged as janitors on April 5, 1900, and were retained in the service, the former until December, 1900, and the latter until January 10, 1901. C. F. Thompson was employed as night watchman from April 5, 1900, until December, 1900, and C. S. Proctor performed the same duties in the forestry annex, Champ de Mars, from April 7, 1900, until December, 1900.

Temporary labor was also employed during the period of installation and repacking of the exhibits.

The selection of jurors was generally intrusted by the Commissioner-General to the directors of the exhibit departments, and the results secured in that way were, as a rule, highly satisfactory. In some instances, however, persons who had been selected and appointed could not serve and their places were filled by others. A great deal of necessary labor fell upon the directors, and the department of forestry and fisheries was no exception to the general rule. The time covered by the meetings of the jurors and their deliberations and comparisons upon the exhibits of the various countries was somewhat protracted, and the directors were expected to be at the call of the jurors whenever they came. It so happened that appointments for meetings were frequently broken and in other cases only a portion of the jury on a given subject were present at the meetings. Several of the classes in Group IX had no jurors, and the director was obliged to give his personal attention all the more earnestly to such classes.

A great many important exhibitors also neglected to furnish the information required for the use of the juries, and this information was collated, prepared, and in many cases translated into the French language, in the interest of exhibitors, by the director. A great deal of time and attention was also devoted to the correction of evident mistakes in the awards granted for certain displays, and the director was the person called upon to make the arguments before the jury or

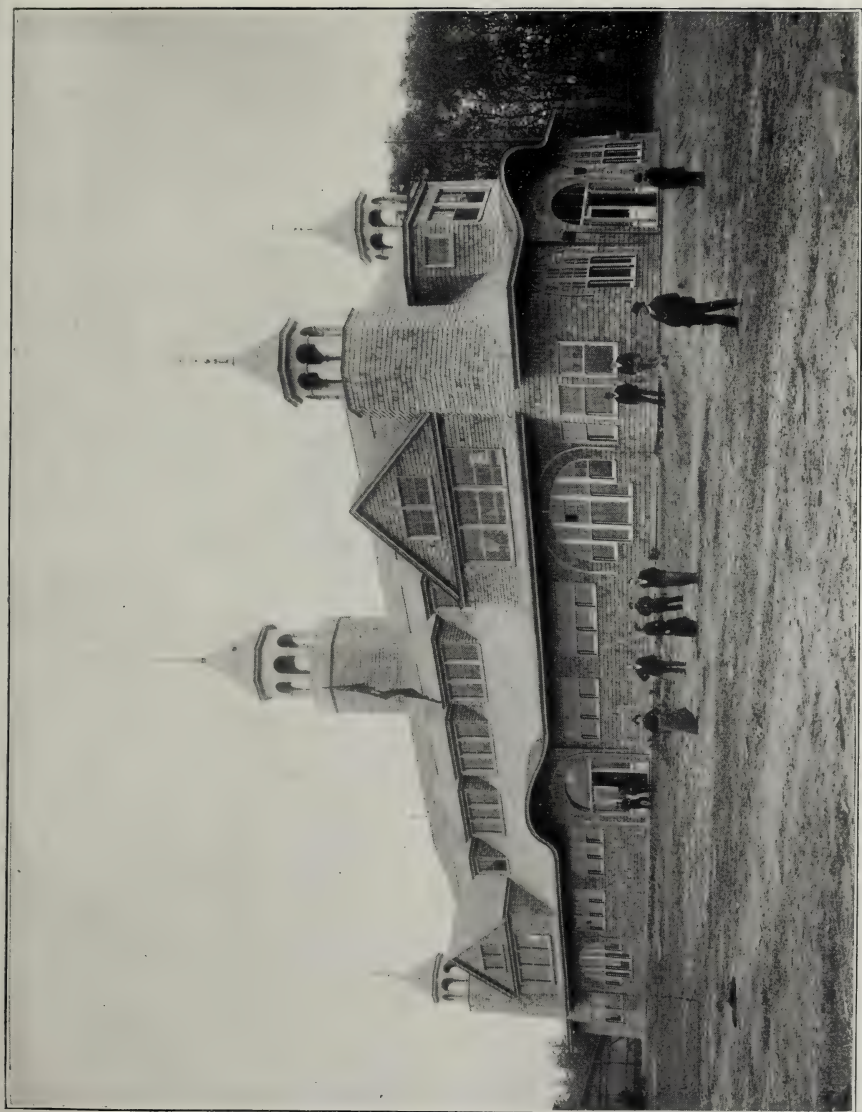
before a committee representing the jury, in order to secure full justice to citizens of the United States. In the department of forestry and fisheries many days were thus spent in the preparation of special pleas and in personal calls for the presentation of arguments.

List of employees in the department of forestry and fisheries.

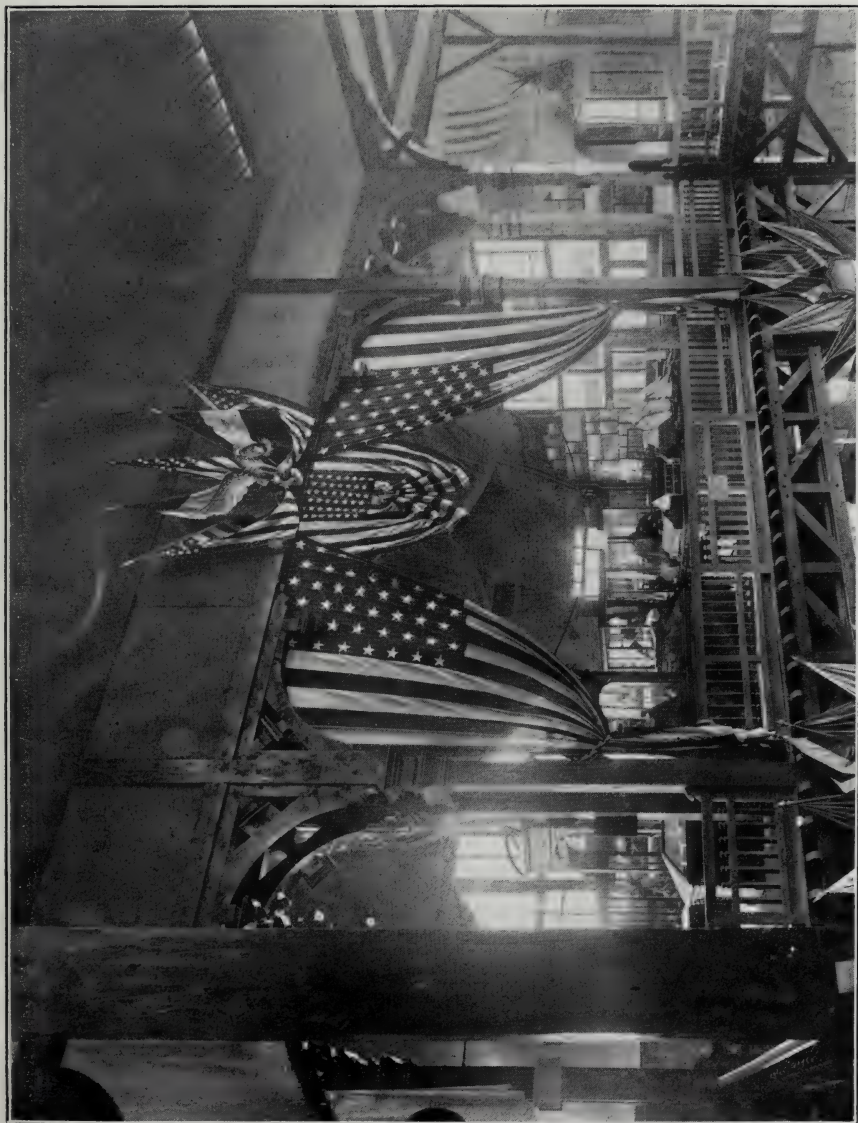
Name.	Service.	Appointment.	Retirement.	Salary.
Tarleton H. Bean	Director	Apr. 1, 1899	Feb. 27, 1901	\$3,000 to \$4,200
J. C. Van Hook	Expert	Jan. 10, 1900	Feb. 15, 1901	1,800
Harry Farmer	Clerk	Oct. 24, 1899	Sept. 15, 1900	900 to 1,200
Paul Gillard	Laborer	Apr. 5, 1900	Dec. 1900	p. d. 1.50
G. F. Greene	Expert	Feb. 1, 1900	June 15, 1900	p. m. 75.00
Elizabeth Bradley	Stenographer	Oct. 16, 1900	Jan. 10, 1901	p. m. 60.00
W. E. Morgan	Expert	Jan. 10, 1900	Sept. 30, 1900	1,200.00
C. S. Procter	Watchman	Apr. 7, 1900	Dec. 1900	p. d. 1.50
C. F. Thompson	do	Apr. 5, 1900	Dec. 1900	p. d. 1.50
John Wildman	Laborer	do	Jan. 10, 1901	p. d. 1.50
Richard Wiener	Expert	Mar. 1, 1900	Dec. 15, 1900	1,200.00
A. H. Winchester	do	July 25, 1899	Nov. 30, 1899	1,200.00
W. W. Ashe	do	June 15, 1899	Nov. 15, 1899	1,500.00
W. A. Bennett	Honorary expert	Dec. 14, 1899	.....	None.
Thomas Hatch	do	Aug. 10, 1899	.....	None.
Wm. H. Mills	do	July 15, 1899	.....	None.
John E. Williams	do	Dec. 14, 1899	.....	None.

PROMOTING THE EXHIBITS.

At the time of the appointment of the director only a few applications for space in the department of forestry and fisheries were on file in the office of the commission, and some of these did not belong in the department to which the application was sent. It was first attempted to secure offers of exhibits by means of correspondence, and many hundreds of letters were written to firms who had made exhibits at former expositions or who were supposed to be interested in creating or increasing their export trade. Nearly every important exhibitor at the various expositions held in the United States, at Chicago in 1893, Atlanta in 1895, Nashville, Omaha, and in other cities, including foreign places, was invited by letter to make a representative exhibit at the Universal Exposition of 1900 at Paris. The aid of the various trade papers was invoked, and notices printed of the salient features of the Exposition and of the advantages offered by a competition with manufacturers in foreign countries to maintain and increase the export trade of the United States. Editorial articles were published far and wide, calling the attention of the people to the subject and earnestly inviting their cooperation. It may be stated plainly that very little was accomplished, notwithstanding the vast amount of time and labor involved in such correspondence. Newspaper notices brought some good returns, but the best results were obtained by personal interviews of the director and his assistants with manufacturers directly interested in the growth and development of our foreign trade. One of the greatest difficulties met with in soliciting exhibits was the very prosperous condition of the various trades of our country during the period



G-4. UNITED STATES FORESTRY ANNEX, VINCENNES.



G-5. LOOKING NORTHWEST THROUGH FRONT OF FORESTRY AND FISHERIES SECTION, CHAMP DE MARS.

of formation of the exhibits, and especially in commercial forestry. Another very serious difficulty encountered grew out of the fact that at many of the former foreign expositions the Government of the United States had collected and exhibited the products of the forest and of the fisheries almost entirely without expense to individual exhibitors. In fishery products the balance of trade has heretofore been uniformly against us. For a number of years prior to the Exposition at Paris the imports of fishery products exceeded the exports in value by about \$1,000,000, and the total value of our exports did not much exceed \$5,000,000 annually. The belief that an export business could not be profitably established, and the fact that the Government had assumed almost entire charge of certain classes of exhibits at foreign expositions, greatly increased the difficulty of promoting exhibits in my department. Another source of increased labor for the director arose from the necessity of supervising the collection of fish-food products, which, although naturally allied to his own department rather than to that of agriculture, were located in the group of agriculture under the French classification. The director's acquaintance with the principal firms engaged in the manufacture of such products made it desirable that he should form the exhibit, and in doing so he was much embarrassed by the conditions already alluded to under which such collections had previously been prepared and installed.

Previous to the appointment of Mr. Winchester and the formation of the honorary advisory board of lumbermen, many letters were addressed to a number of firms and corporations in almost every part of the United States, but with little result as far as individual firms were concerned. The assistance of several State commissions, however, was secured, as well as the valuable cooperation of the Southern Railway Company, through its land agent at Washington, D. C., Mr. M. V. Richards. The commissions of California, New York, and the board of agriculture of North Carolina manifested great interest in securing exhibits, and the Southern Railway Company presented to the commission nearly all the materials for the construction of the forestry annex on the Champ de Mars at Paris. The scientific forestry exhibit, described elsewhere, was prepared under the immediate direction of Forester Pinchot, of the Department of Agriculture at Washington, but all the details of shipment and installation were carried out by the director and his assistants.

The cooperation of Government Departments in Washington was of the greatest value to the United States commission, enabling it to fill out important gaps and to show the resources of our country in a pleasing and comprehensive manner. This is particularly true of the assistance afforded by the United States Fish Commission, the Department of Agriculture, the Massachusetts board of Paris Exposition managers, the California Paris Exposition commission, and the North

Carolina board of agriculture. This subject will be referred to later on in the chapter devoted to the collecting of exhibits.

As one means of securing exhibits for the department, numerous circulars and circular letters were either printed or mimeographed and sent broadcast to persons whose participation in the Exposition was hoped for. The director issued many of these circular letters to manufacturers of forest products, and after the appointment of Mr. Winchester he continued the same line of effort. Printed circulars were also prepared with reference to the hunting and fishing interests, and were sent wherever it was believed they would accomplish their purpose.

COLLECTING THE EXHIBITS.

The assistance rendered by several State commissions has already been referred to. These commissions undertook the entire labor of collection of exhibits, and of forwarding them either directly to Paris or to one of the ports of departure of the Government cruiser *Prairie*, which conveyed loan and governmental exhibits from Norfolk, Baltimore, and New York to Havre or Rouen.

In the Departments of the United States Government which furnished exhibits in their keeping much assistance was rendered by employees who were detailed by the heads of the bureaus to assist the United States Commission in its duties. This is especially true of the Department of Agriculture and the United States Fish Commission. The Southern Railway Company also gave proof of its generosity and public spirit, especially in the illustration of the forestry resources of the Southern States. Allusion has already been made to the cooperation of this company in a former chapter. The company not only furnished the logs, lumber, shingles, sash, doors, and other materials for the construction of the forestry annex on the Champ de Mars, but it also transported all this material, free of expense to the United States, from Alabama to Norfolk, Va., where it delivered it to the cruiser *Prairie* at the docks of the company.

Romeyn B. Hough, of Louisville, N. Y., collected for the Commission a large series of wood sections, already referred to. Mr. W. W. Ashe was sent, at the expense of the department of agriculture of this Commission, through the Southern and Western States to collect materials illustrative of the relations of forestry to agriculture.

T. K. Bruner and H. H. Brimley, of Raleigh, N. C., prepared the exhibits loaned to this Commission by the North Carolina State board of agriculture, embracing specimens of the commercial woods, medicinal plants, and aquatic birds of the State.

Arthur Savage, manager of the Savage Arms Company, Utica, N. Y., one of the important exhibitors in class 51, obtained for the department a collection of snowshoes, skees, moccasins, arrows and

quivers, old hunting arms, and other objects used for decorative purposes.

Messrs. Abbey & Imbrie loaned to the Commission some folding canvas creels, large salmon rods, and reels for decorative use in the forestry annex. Other decorative materials were purchased for the Commission by Mr. G. F. Greene in various parts of the South.

These consisted of skins of deer, black bears, wild-cats, raccoons, opossums, skunks, also palm leaves, holly, Spanish moss, and pine cones. Nets, seines, eel pots, gaff hooks, paddles, skees, and snowshoes, applied as wall decorations in the forestry annex, were purchased in New York, where the flags, shields, eagles, bunting, and numerous other materials for decoration were also secured.

The W. J. Hooper Manufacturing Company, of Baltimore, Md., made and loaned to the Commission a number of models of fishing appliances, including a pound net, a submerged trap, a fyke net, a trammel net, and eel pots. These were displayed in the section of fish foods in the agricultural palace, as it was thought desirable to show something concerning the methods and apparatus of the fisheries along with the fishery products.

The Century Company, of New York City, at the request of the Commission, exhibited drawings of seals, sea lions, sea otters, and other aquatic animals.

Mr. Jacob Gunther, of Middletown, N. Y., as the result of an editorial request in a newspaper devoted to natural history and out-of-door sports, contributed a magnificent series of heads of buffalo, elks, mountain sheep, and Virginia deer, together with mounted specimens of foxes, raccoons, woodchucks, and the great horned owl.

The American Museum of Natural History, of New York City, loaned for exhibition a mounted lobster, which weighed when alive 33 pounds. On account of the great size of this animal, and the fact that it was kept living for a week in an aquarium, it was a very desirable addition to the fishery collection, and proved to be a great attraction to visitors.

A small collection of modern whaling implements, belonging to Messrs. J. & W. R. Wing, of New Bedford, Mass., was secured through the personal efforts of Mr. Walter S. Allen, secretary of the Massachusetts board of Paris Exposition managers.

I have said in a former chapter that the results of correspondence as a means of promoting the exhibits were meager and discouraging. It must be said, however, that a number of very interesting and important collections were obtained in this way with very little outlay of time and money, thanks to the cooperation of public-spirited citizens, whose assistance was rendered freely and gratuitously to the Commission.

The publications exhibited in the department of forestry and fisheries were almost all obtained through correspondence with authors,

and it is gratifying to observe the number and importance of the books and papers brought together at the Exposition, as well as the notice and favor with which they were received by the juries, evidenced by the number and character of awards conferred upon the exhibitors.

The collection of wooden ware exhibited by W. E. Peirce & Co., of Milford, N. H., was secured, after much persuasion, as a loan, although credit for the series was given to the manufacturers. It included more than 500 varieties of articles and occupied 513 square feet of space, chiefly on the walls of the forestry annex.

The commercial forestry exhibit at Vincennes was finally secured chiefly through the instrumentality of Chairman William A. Bennett and Secretary John E. Williams, of the honorary advisory board of lumbermen. Subscriptions were received from lumbermen all over the United States for the erection of a building and for its care during the Exposition. The exhibits in the building consisted of cypress shingles, miscellaneous hard woods, North Carolina pine, maple flooring, yellow pine, Baltimore Lumber Exchange collection, miscellaneous hard woods.

These spaces, together with that occupied by an office, aggregated 4,144 square feet in a building whose floor space amounted to 6,234 square feet. The exhibits were made by the following associations: The North Carolina Pine Association, the Maple Flooring Manufacturers' Association, the Baltimore Lumber Exchange, of Baltimore, Md., the pitch-pine manufacturers, and the manufacturers of hard-wood products. For the expense of the building itself and for its maintenance during the Exposition there were, in addition to the associations named, 130 contributing exhibitors. The total number of individuals and firms represented in that annex was 213, but, unfortunately, the building was not completed until long after the opening of the Exposition and the exhibits were not installed until after all the juries had finished their work, so that no awards were obtained for the exhibitors, and the only results flowing from the outlay of time and money were such as could be derived from the presence of visitors interested commercially in the export forestry products of the United States.

TRANSPORTATION OF EXHIBITS.

The great bulk of the governmental, State, and loan exhibits of the department were carried in the United States cruiser *Prairie*. The weight of exhibits not carried in that vessel belonging in the palace of forestry and the forestry annex, Champ de Mars, was only 7,967 kilos (17,527 pounds). The building materials and exhibits for the forestry annex at Vincennes were dispatched by the exhibitors in several trans-Atlantic steamers. The weight of the building material

alone for that annex is given at 316,769 pounds, comprising 3,733 packages, while one of the exhibits (the maple flooring), consisting of 20 packages, weighed 6,302 pounds.

Exclusive of the forestry annex at Vincennes, for which the details are incomplete, the number of packages forwarded on account of the Government, State, and loan exhibits was 1,966. By other vessels were sent 84 packages, making a total of 2,050. The weight of packages on the *Prairie* was 127,013 kilos (279,429 pounds). Thus the total weight of exhibits of the character named was 134,980 kilos (296,956 pounds).

The exhibits belonging to the Government were assembled at Washington, and from there transported to Baltimore for shipment on the *Prairie*. The work of assembling such exhibits was finished in November, 1899, and at the same time the logs, lumber, shingles, flooring, sash, doors, etc., necessary for the construction of the forestry annex, Champ de Mars, comprising 13 carloads, were delivered at the Southern Railway Company's dock, Pinnars Point, Norfolk, from where they were taken by the cruiser on its first voyage. The collection sent to Baltimore for this first shipment consisted chiefly of the forestry and hunting exhibits from the Department of Agriculture and the fishery and fish-culture exhibits of the United States Fish Commission. Other exhibits there assembled were a few boxes from the California Paris Exposition Commission, a large series of woods, plants, and birds lent by the North Carolina board of agriculture, the net models of the Hooper Manufacturing Company, the exhibit of Southern woods and other specimens of the Southern Railway Company, the exhibit cases and frames made by Knipp & Brother, of Baltimore, the artificial flies of S. Howarth, Florissant, Colo., the flash-light pictures of wild deer, made by George Shiras, 3d, Pittsburg, Pa., the series of publications upon hunting, fishing, fish culture, and general natural history, the letter files of the department of forestry and fisheries, and a box of tools for use in installation.

At the same time there had been assembled at the Campbell warehouse, in New York City, the general forestry and fishery exhibits of the California Paris Exposition Commission, the wood sections made by R. B. Hough, Lowville, N. Y., for the United States Commission to the Paris Exposition; the mounted trout and grayling lent by Thomas W. Fraine, Rochester, N. Y.; the wooden ware of W. E. Peirce & Co., A. G. Wallihan's game photographs, Milam & Sons' reels, the Gloucester fishery models, forwarded by the Massachusetts board of Paris Exposition managers; the angling tackle of Messrs. Abbey & Imbrie, New York; flags for decoration, lobster-fishery models designed by Jay C. Smith, of Boston; plate glass ordered from the Pittsburg Plate Glass Company, and the publications and photographs of the Forest and Stream Publishing Company, New York.

The transportation of the exhibits from ports of entry in France, Havre, and Rouen, was attended by very great delay, but this subject will be more fully entered into in the chapter on installation.

The transportation of the materials of construction for the forestry annex, Champ de Mars, was undertaken by the Southern Railway Company without expense to the United States Commission. Through its land agent, Mr. M. V. Richards, the company secured logs, in accordance with the architect's specifications, at Riverside, Ala., and carried them on its own lines and delivered them at its own dock at Norfolk, Va., where they were received by the *Prairie*. This material filled 13 cars and weighed about 125 tons.

INSTALLATION OF THE EXHIBITS.

Preliminary plans of installation were made December 1, 1899, but up to January 16, 1900, owing to frequent withdrawals of applications which had long remained on file in the Chicago office, there still remained a space of about 11 feet square in the forestry annex, Champ de Mars, which was not definitely assigned, although a sufficient number of applications remained on the list to fill the space when necessary.

For the Government and loan exhibits cases were designed on the plans adopted by Director Dodge for exhibits in the department of agriculture of the United States Commission, but differing in this respect, that the white oak was naturally finished. The contract was entered into with Messrs. Knipp & Brother, of Baltimore, November 23, 1899, and the cases were delivered to the *Prairie* in Baltimore, as mentioned in the chapter on transportation of exhibits. The contract and specifications were as follows:

CONTRACT FOR CASES FOR GROUP IX, UNITED STATES EXHIBITS, AT THE PARIS EXPOSITION OF 1900.

This agreement, made this 23d day of November, A. D. 1899, by and between Tarleton H. Bean, director of forestry and fisheries for the United States Commission to the Paris Exposition of 1900, as party of the first part, and John C. Knipp & Bro., of the city of Baltimore, State of Maryland, doing business under the firm name of John C. Knipp & Bro., as parties of the second part,

Witnesseth, the said John C. Knipp & Bro., parties of the second part, hereby covenant and agree with said party of the first part, in consideration that the party of the first part agrees to perform the consideration hereinafter mentioned, to construct, finish, box, and deliver at the Fort avenue warehouse, Locust Point, Baltimore, Md., the furniture required for the exhibits in Group IX, in the palace of forestry and fisheries, and they agree to do all such work in strict accordance with the drawings and specifications submitted, which said drawings and specifications are to be taken and deemed to be a part of this contract by both the parties hereto, and all things which, in the opinion of the superintendent, may fairly be inferred from such drawings and specifications to be intended without being specially stipulated are to be taken as expressly specified; and the said parties of the second part covenant to perform the whole of their agreement in the best, most substantial, and most workmanlike manner, subject to the directions from time to time and to the

satisfaction of the superintendent appointed by the party of the first part, and to deliver their work at Baltimore, in the State of Maryland, completely finished, in knockdown condition, in substantially the same material and workmanship as sample case No. 2 in the office of the director of agriculture, United States Commission to the Paris Exposition, Washington, D. C., on or before the 1st day of January, A. D. 1900, being approximately the sailing date of the transport upon which the said furniture will be shipped to France.

And the said party of the first part hereby promises and agrees, in consideration of the promise of the parties of the second part to perform the foregoing covenants, to approve for payment to the said parties of the second part, as the total contract price, the sum of \$1,447 immediately after the acceptance by the superintendent appointed and on delivery at the aforementioned Fort Avenue warehouse.

Orders for changes which do not affect the cost of the work may be given by word of mouth, but no order for any change which increases or diminishes the cost of the work or affects the time of completion shall be valid unless in writing, and for all such changes the cost is to be increased in proportion to the cost of the work.

Neither the whole nor any portion of this contract shall be sublet or assigned by the party of the second part without the written consent of the party of the first part.

It is especially understood and agreed that the parties of the second part shall forfeit to the party of the first part the sum of \$25, as liquidated damages, for each and every day's delay in the completion of the aforesaid work, not caused or contributed to by the party of the first part, beyond the time provided in this contract.

In witness whereof the said parties hereunto set their hands and seals the day and year first above written.

_____,
Director of Forestry and Fisheries.

_____,
_____,
Contractors.

Approved.

_____,
Commissioner-General.

_____,
Director in Chief of Exhibit Departments.

SPECIFICATIONS OF FURNITURE FOR THE DEPARTMENT OF FORESTRY AND FISHERIES, TO BE MANUFACTURED BY THE FIRM OF JOHN C. KNIPP & BRO., BALTIMORE, MD.

Cases to be made of plain white oak, finished natural or medium color, of same detail as the cases being made for the director of agriculture, United States Commission to the Paris Exposition.

Five table cases, with tops for glass, 8 feet long by 3 feet wide; base, 2 feet 4 inches high, and top for glass 1 foot high; total height, 3 feet 4 inches; \$94 each; total, \$470.

One case for reading desk, 8 feet long by 3 feet wide by 3 feet 6 inches high, made in two separate cases, each 4 feet long, with paneled ends, one case to have one cupboard and upright partition, and the other case to have one pair doors on each side, with division between, to be used as bookcase, for the sum of \$115.

Two pavilion cases, 7 feet 6 inches long by 2 feet wide by 8 feet high; base, 1 foot 6 inches high, with diaphragm in center having compo-board on each side, with end panels for glass, so arranged that the two cases can be put together in one, forming one case 15 feet long; the two cases at \$98.50 each; total, \$197.

One pavilion case, 7 feet 6 inches long by 3 feet wide by 8 feet high; base, 1 foot 6 inches high, with one shelf; base and shelf covered with compo-board; at \$105.

One pedestal, 1 foot 6 inches high, with shelf 3 feet 6 inches high, both covered with compo-board; pedestal to be 8 feet long by 3 feet wide; at \$85.

One plain oak screen, as per drawing, 21 feet 8 inches long by 19 feet high, arranged with frames to hold pictures; posts and rails to be bolted with heavy screws. One plain oak screen, 9 feet long by 7 feet 6 inches high, arranged with six frames made as above; both to cost \$475.

No perspective of the interior of the space for Group IX in the palace of forestry was ever received by the director, and no plans for decoration were made in advance by the superintendent of decorations. All such work was carried out by the director and his assistants on the ground. The official plans furnished by the French Exposition authorities were inaccurate in several particulars, and caused much embarrassment in the work of installation. For example, a large white-oak frame, designed to receive the forestry transparencies, was intended to fill all of the space in front of the north window looking out upon the Seine, and extending up to the angles of the window frame. After having followed the plans given us, and after placing the frame in position, it was found to be more than 2 feet too short and almost 2 feet too high. An unsightly gap was thereby created between the front of the transparency frame and the series of forestry bromide enlargements adjacent to it upon the north wall upon either side.

The great height of the roof covering the space of the United States in the forestry palace and the structural weakness of some of the decorative caps on the roof trusses made it difficult to support the weight of overhead exhibits safely and at the same time effectively; but the principal difficulties in the way of installation at Paris were the very great delays occurring in the transportation of exhibits from Havre and Rouen and in the Exposition grounds. It was almost a daily occurrence for cars to be pushed up to the side of the forestry building and kept there until the unloading of our exhibits had begun, when suddenly, and without warning, they were shifted to some other place and remained unseen by us for days at a time.

A still more serious drawback in installation was the late date at which the buildings became available for installation purposes. On March 1, when the space of the United States in the forestry palace was accepted by the Commissioner-General, the floor was unfinished, the windows had not been put in, no railing protected the principal staircase, the roof leaked in twenty places, and an important part of the floor space which had been granted to the United States for this department was, without notice, taken away from us and given to Japan. As this space was absolutely necessary for the installation of important exhibits already in the grounds and could not be given up, strenuous efforts were made by the assistant commissioner-general and by the director of the department to have it restored, and this was finally done, but only through the courtesy of the commissioner-general of Japan, Mr. Hayashi, who generously admitted that the space had originally been granted to the United States, and was needed by that country, and he therefore willingly relinquished all claim upon it.

On March 23, twenty-three days after the space had been accepted by the Commissioner-General, and only three weeks before the opening of the Exposition, the workmen employed by the Exposition authorities were still on the space, and the conditions were such as to make even the beginning of an installation almost impossible.

Installation in the forestry annex, Champ de Mars, did not begin until long after the opening of the Exposition, owing to the failure of the contractor to finish the building within the time specified in the contract. He was to deliver the building on March 15, but as a matter of fact the annex was not completed until May 15, and it was regularly opened to the public about the 1st of June. The builder's contract involved a penalty of 60 francs per day for every day's delay after March 15, but this penalty was not enforced. It must be said in his behalf, however, that the roads leading to the Exposition were almost impassable at the time when the delivery of the logs and other building material was attempted, and the peculiar situation of the building site between two sunken roads made it very difficult, if not quite impossible, to classify the logs and other materials in such a way as to make convenient their handling for building purposes.

It should be mentioned here that when the location for the forestry annex, Champ de Mars, was accepted by the Commissioner-General of the United States, it was accepted upon a plan of the Exposition authorities showing a bridge allowing access from the forestry annex to the street adjacent within the Exposition grounds. This bridge was never constructed. Had the plan been carried out as promised, the attendance at the forestry annex would undoubtedly have been very great. Under the existing circumstances, however, the maximum attendance on any one day was not above 1,000 persons, while the average attendance was far below this number.

On the 1st of March, 1900, the main wall at the southwest corner of the annex was up to a height of only five logs above the foundation. On March 15 the main walls were still unfinished, and on March 31 the walls were up, with the central tower still unfinished, and with not even the beginning of a roof, and with no chimneys, doors or windows.

The effect of this delay on the part of the contractors, and in the delivery of goods by rail, was to increase greatly the expense of installation, and to make it impossible to admit the public at the time specified for the official opening. The defects in the roof, causing serious leaks with every considerable rain, interfered very much with the progress of work with certain costly exhibits. Waterproof covers were used to protect the cases and pedestals as far possible, but in spite of all precautions some of the large forestry illustrations on the north wall and fishery pictures on the west wall were somewhat damaged by stains washed out of the fabrics used for backgrounds.

FOREST EXHIBIT AT PARIS.

B. List of labels for bromide enlargements, transparencies, and North Carolina wood specimens, including numbers for placing of forest maps.

- B. 1. Natural regeneration of short-leaf pine and oak after lumbering.
 - B. 2. Natural regeneration of redwood and lowland fir after lumbering.
 - B. 3. Natural regeneration of red fir and silver fir after lumbering.
 - B. 4. Natural regeneration of western yellow pine after lumbering.
 - B. 5. Natural regeneration of a light-demanding pine in a windfall (foreground) and a shade-bearing hemlock beneath the old pine.
 - B. 6. Burned pine woods; the mineral soil exposed. Land fit for agriculture.
 - B. 7. Lumbered pine woods; the mineral soil laid bare by fire. Such land is suited for forests but worthless for agriculture.
 - B. 8. Sycamore: Showing typical development of sycamore in crowded woods.
 - B. 9. Regeneration of lodge-pole pine six years after the burning of the original pine and fir forest.
 - B. 10. Stand of lodge-pole pine twenty-five years after a fire.
 - B. 11. Fir reappearing beneath dying lodge-pole pine more than one hundred years after the original fir forest was burned.
 - B. 12. Showing typical crown and stem of Western yellow pine.
 - B. 13. Twenty-year-old North Carolina pine in an old field; badly in need of thinning. Foreground cut clean for fuel.
 - B. 14. Northern pitch-pine poles on poor farm land; in need of thinning.
 - B. 15. Twenty-five-year-old coppice in good condition. Foreground shows 4-year-old sprouts, cut by farm labor for fuel and tan bark.
 - B. 16. Thick forest preventing snowdrifts from melting until September. Source of an irrigation stream, Hood River, Oreg.
 - B. 17. Irrigation canal showing head gate and waste gate (on side).
 - B. 18. The desert before and after irrigation.
 - B. 19. Use of wooden staves in constructing flume and pipe for transporting irrigation water across desert hills.
 - B. 20. Thick plantations of low willows along streams to prevent washing of banks and flooding lowlands. Central Mississippi Valley region.
 - B. 21. Agricultural lands flooded by the Mississippi River. A sugar-cane mill in the distance.
 - B. 22. Use of timber-facing to protect levees along the Mississippi River from washing. Old facing undermined and new one in process of construction.
 - B. 23. Sugar-maple orchard tapped for sap.
 - B. 24. Farm labor gathering maple sap and making sugar and sirup during the spring.
 - B. 25. Farm labor tapping ("bleeding") longleaf pine for turpentine.
 - B. 26. Farm labor lumbering during winter in Southern pine forest.
 - B. 27. Large areas along the mountains from which timber has been burned by sheep herders to secure pastures. Eastern Oregon.
 - B. 28. An irrigated valley with fruit trees and eucalyptus plantations (large trees). Southern California.
 - B. 29. Typical prairie farm; trees planted for shelter around farmhouse and barns. Northern Mississippi Valley.
- 30-35, inclusive, are maps which are labeled (map Nos. 1-6).
- B. 36. Effect of excessive sheep grazing in California pine forest, showing the destruction of all young growth.
 - B. 37. Two sides of a fence; one constantly grazed by sheep, showing destruction of all young growth; the other side not pastured, showing abundant natural reproduction of pines.

- B. 38. Pine woodland in California protected from sheep grazing, showing natural reproduction of the young growth.
- B. 39. Natural meadows ("parks") among the forests of the Rocky Mountains; meadows greatly extended by herders burning the timber. Mountains of Utah.
- B. 39a. Natural meadows ("parks") among the forests of the Rocky Mountains; meadows greatly extended by herders burning the timber. Mountains of Utah.
- B. 40. A cattle ranch; herds resting in the shade of groves of white oaks.
- B. 41. Showing the suppression of young tree growth in pastured longleaf pine forest, which is periodically burned over by herders to better the pasturage.
- 42. Longleaf pine forest on sandy soil. Coast region of the Southern States.
- 43. A big tree (*Sequoia gigantea*) with sugar pine and white fir. Sierra Nevada Mountains, California.
- 44. Red firs and sugar pines. Cascade Mountains.
- 45. Typical southern Appalachian forest of sycamore, yellow poplar, beech, and oak on agricultural land.
- 46. Showing the distribution of farms and forests in the Western mountains. Redlands, Cal.
- 47. Showing the distribution of farms and forests in the Appalachian Mountains. Ashe County, N. C.
- 48. A 27-year-old plantation of eucalyptus, severely thinned, but in good condition. Southern California.
- 49. Plantation of beech and white pine on poor land, showing natural thinning. Region of the Great Lakes.
- 50. A 15-year-old plantation of catalpa intended for fence posts; in need of thinning.
- 51. Plantation of white birch, ash, elm, and cherry in the plains region.
- 52. Plantation of white maple, serving as a shelter belt.
- 53. Showing the effect of constant prairie winds in permanently bending a single row of white willows, and also the insufficiency of a single row for a windbreak.
- 54. Showing the effect of constant winds on an orchard unprotected by a shelter belt; fruit trees leaning and flat topped.
- 55. Orange orchard and palms, with a shelter belt of pine; shows also method of protecting against frost by shelter of wooden slats.
- B. 56. Waste of timber in lumbering. Pacific coast region.
- B. 57. Waste of timber in lumbering; small trees broken down in felling large trees.
- B. 58. "Pine slashing;" showing waste of timber in method of clearing land for agriculture by burning the logs.
- B. 59. Showing waste of timber in clearing hard-wood forest land for fields; the trees are killed by girdling and left to decay.
- B. 60. Waste of timber in fencing. A practice common in Pacific coast region and Northwest.
- B. 61. Waste of timber in fencing. A practice common in eastern and southern United States.
- B. 62. Destructive method of lumbering on land fit only for forest growth. No seed trees left and conditions are dangerous for a fire.
- B. 63. Excellent regeneration of North Carolina pine fifteen years after lumbering the same species. Smaller and defective trees were left as seed trees. These could now be profitably removed and would leave the young growth free and unshaded. Land protected from fire.
- B. 64. Careless lumbering. Forest land burned over by the carelessness of loggers.

65-72, inclusive. Maps (maps Nos. 7 to 14).

- B. 73. A long-used hillside pasture beginning to wash.
 - B. 74. A deeply eroded hillside on abandoned land being slowly stocked by self-sown seedlings.
 - B. 75. Artificial method of checking erosion by brush previous to planting.
 - B. 76. A 45-year-old forest of North Carolina pine growing on badly washed farm land; timber being cut for fuel.
 - B. 77. An abandoned pasture restocked with broadleaf trees by natural seeding from adjoining woods.
 - B. 78. Abandoned north hillside, too steep and cold for cultivation, being restocked with beech and maple seedlings.
 - B. 79. Abandoned farms in a river valley, subject to periodic flooding, now being allowed to grow up in timber again. Valley of Wabash River.
 - B. 80. Use of a low, wet place on a farm for a pecan orchard.
 - 81. A group of sugar pines with big trees and California red fir. On land unfit for agriculture.
 - 82. A thinned forest of sweet gum and oaks on agricultural land.
 - 83. Forest of swamp red oak and Texas oak partly lumbered; on agricultural land. Excellent regeneration taking place, but of undesirable species.
 - 84. Group of white pines on agricultural land.
 - 85. North Carolina pine, in partly lumbered forest, on agricultural land.
 - 86. Appalachian forest of birch, maple, hemlock, and rhododendron on land unfit for agriculture.
 - B. 87. A grove of white pines which needs thinning; branches beginning to interfere. Pruned by farm labor.
 - B. 88. A 10-acre cottonwood plantation on a homestead claim, killed to the ground by drought through lack of cultivation.
 - B. 89. Forest land cleared by farm labor for cultivation, showing piles of posts and fuel left to dry.
 - 90. Sweet birch, *Betula lenta* L.
 - 91. Chestnut, *Castanea dentata* (Marsh.) Borkh.
 - 92. Sweet gum, *Liquidambar styraciflua* L.
 - 93. Post oak, *Quercus minor* (Marsh.) Sarg.
 - 94. Swamp white oak. *Quercus plantanoides* (Lam.) Sudw.
 - 95. White ash, a curly form. *Fraxinus americana* L.
 - 96. Water ash, *Fraxinus caroliniana* Mill.
 - 97. White ash, *Fraxinus americana* L.
 - 98. White walnut, *Juglans cinerea* L.
 - 99. Black gum, *Nyssa sylvatica* Marsh.
 - 100. Shagbark hickory, *Hicoria ovata* (Mill.) Britt.
 - 101. Wild cherry, *Prunus serotina* Ehrh.
 - 102. Yellow poplar, *Liriodendron tulipifera* L.
 - 103. Yellow locust, *Robinia pseudacacia* L.
 - 104. Sycamore, *Platanus occidentalis* L.
 - 105. Mulberry, *Morus rubra* L.
 - 106. White cedar, *Chamæcyparis thyoides* (L.) B. S. P.
 - 107. Red cedar, *Juniperus virginiana* L.
 - 108. North Carolina pine, *Pinus taeda* L.
- Legend: B=Bromide enlargements.

Almost all of the private exhibitors had their exhibits on the space in good season, and their work of installation was pushed as rapidly as circumstances would permit. Inasmuch as a great many large pictures, especially those illustrative of agricultural forestry, were sent without frames, molding was purchased in Paris and suitable frames

were made for use on the walls. The flags, shields, eagles, and set decorative pieces obtained in New York were installed, and the decorative features were still further amplified by means of netting furnished by the American Net and Twine Company.

The exhibits of States, except those that were strictly loan exhibits, were for the most part installed by representatives of the various State commissions. The large painting exhibited by the Southern Railway Company as an illustration of the methods of lumbering, logging, and transportation in Alabama was painted by Mr. G. F. Greene in the forestry annex. The pine cones obtained from California and from the Southern States by employees of the Commission were effectively used in the wall decoration, and the trophies of the hunt and the chase, together with implements and apparatus used in hunting and fishing, proved extremely useful and attractive.

The heads of deer, elk, buffalo, mountain sheep, and other game animals, exhibited by Mr. Jacob Gunther and C. S. Phillips, helped to indicate the character of the department in which they were installed.

A partition 13 feet long and 12 feet high, dividing the space of the United States from that of Germany, and situated on the east front of the exhibit space, was utilized for forestry illustrations and products. The two outside walls of the office, so called, were covered with hunting and fishing exhibits and with a few handsome specimens of California woods.

A characteristic feature of the walls of the United States space was a series of specimens of timber and lumber extending from the floor to a height of 4 feet as far as wall spaces were accessible for this kind of installation.

Messrs. Smith & Wesson, who made an exhibit of revolvers in the palace of forestry, also established a shooting gallery at Vincennes for the demonstration of the accuracy of their weapons. Plans were made by them and submitted to the Commissioner-General. After approval by the United States Commission the plans were sent to Paris for inspection by the French Exposition authorities, and with some minor modifications were accepted. A building 15 feet wide by 50 feet in length, based upon these plans, was erected adjacent to the machinery building at Vincennes, and demonstrations were given daily in accordance with the prearranged plan.

A great deal of time and care were devoted to the preparation of descriptive labels which were attached to objects exhibited in the forestry and fisheries department. These labels contained the name of the country from which the exhibit came, the common name of the object in English and in French, and the name and address of the exhibitor; also, whenever possible, a very brief but adequate description of the article exhibited. The number of labels thus prepared ran into the thousands, but the time and money thus invested produced the most gratifying results.

RETURN OF THE EXHIBITS.

A comparatively small bulk of the exhibits was destined to be returned to the United States, the forestry annexes on the Champ de Mars and at Vincennes having been intended for sale to the highest bidder. The annex on the Champ de Mars was sold early in January, 1901, and the purchaser undertook all arrangements for paying the customs and octroi, the removal of the building, and the restoration of the ground to its former condition. The forestry annex at Vincennes is the property of the exhibitors, and is to be sold for their benefit. The same is true of the lumber exhibits in that annex.

Before the packing of exhibits for their return to the United States was begun, investigation into the condition of the empty boxes revealed the fact that many of the cases were more or less water-soaked, and the excelsior, paper, and other packing material contained inside of them nearly all ruined. There was great delay in the delivery of the boxes, and some of them belonging to the department of forestry and fisheries were not returned at all. There were no facilities for drying the empty boxes in the grounds, except by means of lamps placed inside of them, a very slow and difficult method of drying. It was estimated that the repacking of the exhibits would be finished December 15; but for the delay in the closing of the Exposition and the bad condition of the boxes, this would have been accomplished. As it was, the last box was ready for delivery to the transportation company for dispatch to the *Prairie* on December 20, 1900. On December 21 all of the boxes belonging to the department had been removed, the exhibits of private exhibitors having been taken away at an earlier date.

The exhibits of the department returned on the *Prairie* comprised all of the materials loaned by the bureaus of the United States Government and by State commissions and individual exhibitors. They are contained in 183 boxes, and were all consigned to Baltimore, Md., from which port they are to be distributed to their owners. They comprise the fishery and fish-culture materials of the United States Fish Commission, the illustrations of agricultural forestry and specimens of mammals of the Department of Agriculture, the North Carolina woods, medicinal plants, and aquatic birds, loaned by the North Carolina board of agriculture; the mounted fish of T. W. Fraine, the Hooper Manufacturing Company's fishing net models, the wooden ware of W. E. Peirce & Co., the publications of numerous authors, the flags and other decorative material purchased by the Commission, and a few other collections of the general character already mentioned.

After turning over this property to Puthet & Claret for delivery to the *Prairie*, efforts were made by the director and some of his assistants to aid in the disposition of Government property which it was not desired to return to the United States. The director remained in

Paris thus occupied, and devoting such time as he could command to the preparation of his report, and to correspondence with exhibitors whose exhibits were on the way to the United States. He left Paris January 12 and arrived in New York January 22, 1901, proceeding from there to Washington, where the report work was continued pending the arrival of the *Prairie* with the Government exhibits at Baltimore.

Analysis of exhibitors in forestry and fisheries.

GROUP IX BY CLASSES.

Class.	Occupation.	
	Number.	Area.
No. 49	7	<i>Square feet.</i> 1,576
No. 50	11	5,025
No. 51	5	537.5
No. 52	12	277.5
No. 53	46	3,777
No. 54	1	212
Total	82	11,405

Gross floor space for group (not including annex at Vincennes)	square feet..	5,353
Number of packages forwarded by <i>Prairie</i>		1,966
Number of packages forwarded by other vessels		84
Total		2,050
Weight of packages forwarded by <i>Prairie</i>	kilos..	127,013
Weight of packages forwarded by other vessels	do..	7,967
Total	do..	134,980

FORESTRY ANNEX, VINCENNES.

	Pounds.
Building material alone comprised 3,733 packages, weighing	316,769
Maple-flooring exhibit contained 20 packages, weighing	6,302

Awards in department of forestry and fisheries, Group IX.

GRAND PRIX.

Board of Agriculture, Raleigh, N. C.
 California Paris Exposition commission, Occidental Hotel, San Francisco, Cal.
 Smith & Wesson, Springfield, Mass.
 Southern Railway Company, 1300 Pennsylvania avenue, Washington, D. C.
 United States Commission of Fish and Fisheries, Washington, D. C.

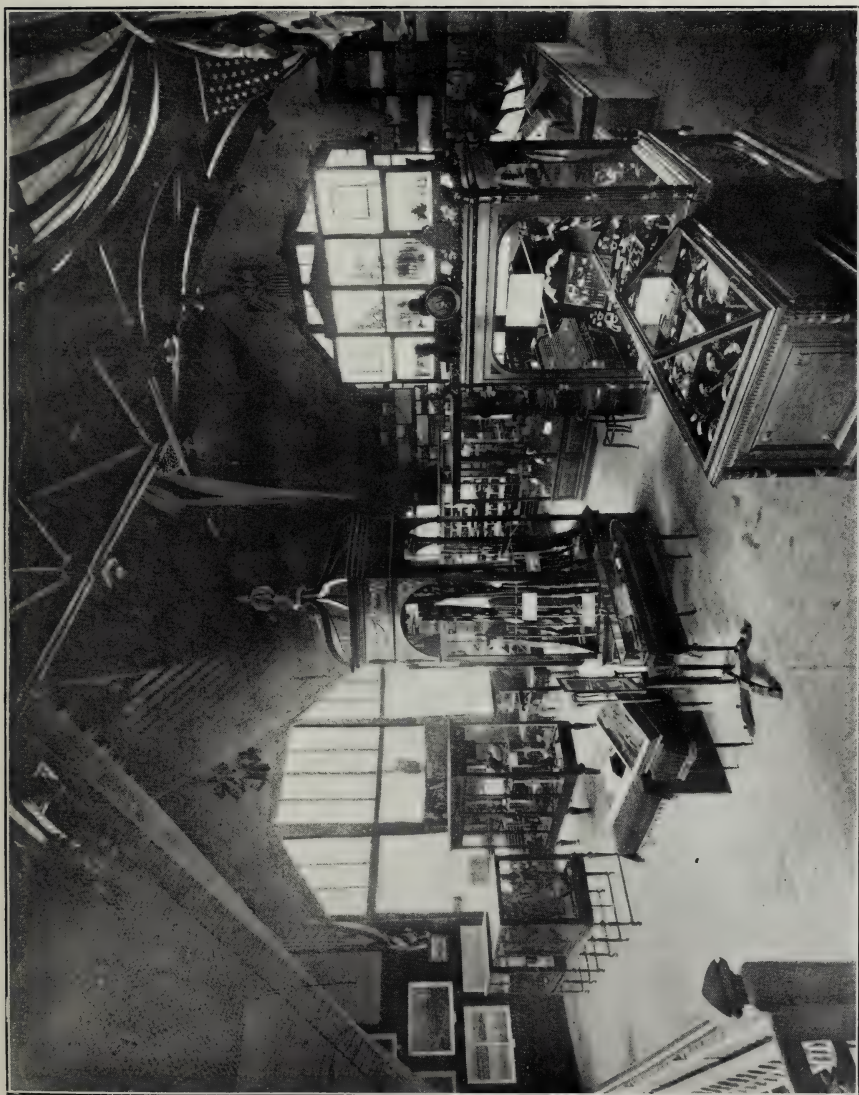
GOLD MEDALS.

Abbey & Imbrie, 18 Vesey street, New York City.
 Adams, Ivers S., 93 Commercial street, Boston, Mass.
 Albro, E. D., Company, Cincinnati, Ohio.
 American Net and Twine Company, 93 Commercial street, Boston, Mass.
 Asch & Jaeckel, New York City.
 Axtell, C. S., care of Smith & Wesson, Springfield, Mass.
 Bean, Tarleton H., 1001 G street NW., Washington, D. C.
 Bean, Tarleton H., collaborator, 1001 G street NW., Washington, D. C.
 Board of agriculture, Raleigh, N. C.
 Board of agriculture, Raleigh, N. C.

- Bridgeport Wood Finishing Company, New Milford, Conn.
 Bruner, Prof. T. K., State Museum, Raleigh, N. C.
 California Paris Exposition commission, Occidental Hotel, San Francisco, Cal.
 Evermann, Dr. B. W., United States Fish Commission, Washington, D. C.
 Fisheries, game, and forest commission, Albany, N. Y.
 Forest and Stream Publishing Company, 346 Broadway, New York.
 Forestry and fisheries department, United States Commission to Paris Exposition;
 Tarleton H. Bean, director, 1001 G street NW., Washington, D. C.
 Gaskill, V. W., collaborator, Occidental Hotel, San Francisco, Cal.
 Greene, G. F., collaborator, Southern Railway Company, 1300 Pennsylvania avenue,
 Washington, D. C.
 Hough, R. B., Lowville, N. Y.
 Jordan, Dr. D. S., Stanford University, Cal.
 Kunz, G. F., collaborator, Tiffany & Co., Union Square, New York City.
 Massachusetts board of Paris Exposition managers, Commonwealth Building, Bos-
 ton, Mass.
 New Bedford Oil Company, 100 Border street, East Boston, Mass.
 Peirce, W. E., & Co., Milford, N. H.
 Richards, M. V., collaborator, Southern Railway Company, 1300 Pennsylvania avenue,
 Washington, D. C.
 Savage Arms Company, Utica, N. Y.
 Secretary of Agriculture, United States, Washington, D. C.
 Shiras, George, 3d, Pittsburg, Pa.
 Smith, Dr. Hugh M., United States Fish Commission, Washington, D. C.
 Stejneger, Dr. Leonhard, United States National Museum, Washington, D. C.
 Tanner, Z. L., commander, U. S. N., Washington, D. C.
 Tiffany & Co., Union Square, New York City.

SILVER MEDALS.

- Atwater, Dr. W. O., Wesleyan University, Middletown, Conn.
 Baldwin, A. H., collaborator, Department of Agriculture, Washington, D. C.
 Barnard, George, & Co., New York City.
 Barnard, George & Co., New York City.
 Bean, Barton A., National Museum, Washington, D. C.
 Benn, John, San Francisco, Cal.
 Bien, Julius, & Co., 140 Sixth avenue, New York City.
 Brimley, H. H., collaborator, curator State Museum, Raleigh, N. C.
 Charles, F. T., collaborator, 90 rue Jouffroy, Paris.
 Dean, Dr. Bashford, Columbia University, New York City.
 Eigemann, Prof. C. H., State University, Bloomington, Ind.
 Elliot, Dr. D. G., Field Columbian Museum, Chicago, Ill.
 Fisheries, game, and forest commission, Albany, N. Y.
 Fraine, T. W., 16 Joslyn park, Rochester, N. Y.
 Gardner, Theodore F., collaborator, Savage Arms Company, 15 Boulevard l'Ouest,
 Le Vesinet. (S and O.)
 Gunther, Jacob, Middletown, N. Y.
 Henshall, Dr. J. A., United States Fish Commission, Bozeman, Mont.
 Hooper Manufacturing Company, 116 South street, Baltimore, Md.
 Hough, Franklin B., Lowville, N. Y.
 Howarth, S., Florissant, Colo.
 Hudson, Charles B., collaborator, United States Fish Commission, Washington, D. C.
 Linton, Prof. Edwin, Washington and Jefferson College, Washington, Pa.
 McGibbons, John H., collaborator, Auditorium Building, Chicago, Ill.



G-6. LOOKING NORTHWEST THROUGH FORESTRY AND FISHERIES SECTION, CHAMP DE MARS.



G-7. LOOKING SOUTHWEST THROUGH FORESTRY AND FISHERIES SECTION, CHAMP DE MARS.

Milam, B. C., & Son, Frankfort, Ky.
 Oneida Community, Limited, Kenwood, N. Y.
 Secretary of Agriculture, United States, Washington, D. C.
 Southern Railway Company, 719 Thirteenth street, Washington, D. C.
 Stevenson, C. H., Fish Commission, Washington, D. C.
 Tiffany & Co., Union square, New York City.
 True, Dr. F. W., National Museum, Washington, D. C.
 Van Hook, John C., collaborator, Helena, Mont.
 Wilcox, W. A., United States Fish Commission, Washington, D. C.
 Wing, J. & W. R., New Bedford, Mass.
 Young, Oscar, collaborator, Smith & Wesson, Springfield, Mass.

BRONZE MEDALS.

Bumpus, Prof. H. C., Brown University, Providence, R. I.
 Forest and Stream Publishing Company, 346 Broadway, New York City.
 Green, Monroe A., Rochester, N. Y.
 Hooper, W. J., 116 South street, Baltimore, Md.
 Kendall, Dr. W. C., Fish Commission, Washington, D. C.
 Meek, Dr. Seth E., Field Columbian Museum, Chicago, Ill.
 Morgan, W. E., collaborator, United States Fish Commission, Washington, D. C.
 Woolman, Dr. A. J., principal of high school, Duluth, Minn.

HONORABLE MENTION.

Blackford, Dr. C. M., care of United States Fish Commission, Washington, D. C.
 Century Company (The), New York City.
 Forest and Stream Publishing Company, 346 Broadway, New York City.
 Forest and Stream Publishing Company, 346 Broadway, New York City.
 Kirsch, Dr. P. H., Benson, Ariz.
 Kofoid, C. A., Urbana, Ill., State Laboratory Natural History.
 Mather, Fred, 63 Linden street, Brooklyn, N. Y.
 Nelson, E. W., Department of Agriculture, Washington, D. C.
 Phillips, C. S., Glover, Vt.
 Rogers, W. H., 257 Washington street, Boston, Mass.
 Titcomb, John W., St. Johnsbury, Vt.
 Wallihan, A. G., Lay, Colo.

AWARDS BY CLASSES, AND SPACE OCCUPIED BY EXHIBITS.

[Group IX.—Forestry, hunting, fishing, gathering wild crops.]

CLASS 49.—*Appliances and processes used in forestry.*

California Paris Exposition commission, San Francisco; 17 square feet. Forest photographs.
 Department of Agriculture, U. S. A., Washington, D. C.; 1,157 square feet. Gold medal. Photographs and writings pertaining to forests, their destruction, their preservation, and their relations to agriculture.
 Fisheries, game, and forest commission, Albany, N. Y.; 112.5 square feet. Silver medal. Seventy specimens of New York native woods.
 Forest and Stream Publishing Company, 346 Broadway, New York; 36 square feet. Honorable mention. Publications: Forest and Stream Journal; books upon outdoor sports.
 Hough, Dr. Franklin B., Lowville, N. Y.; one-half square foot. Silver medal. Publications relating to forestry.

Hough, Romeyn B., Lowville, N. Y.; 1 square foot. Photographs of typical trees, illustrating their manner of growth.

Southern Railway Company, Washington, D. C.; 252 square feet. Silver medal. Painting and photographs showing the processes of logging, milling, and transporting lumber.

Total, 1,576 square feet.

CLASS 50.¹—*Products of the cultivation of forests and of forest industries.*

Albro, D. D., & Co., 1025 West Sixth street, Cincinnati, Ohio; 100 square feet. Gold medal. Veneers and hard woods.

Bean, Tarleton H., 50 West Seventeenth street, New York; one-fourth square foot. A cigar case made by Alaskan native on the island of Atka, from a native wild grass.

Bridgeport Wood Finishing Company, New Milford, Conn. Gold medal. Finished hard woods.

California Paris Exposition commission of 1900, Occidental Hotel, San Francisco, Cal.; 1,594.5 square feet. Grand prize. Collective exhibit of woods for building and cabinet work.

Department of forestry and fisheries, United States Commission to Paris; 139 square feet. Gold medal. Thin sections of woods of the United States, representing more than 250 species.

Fisheries, game, and forest commission of New York, Albany, N. Y. Gold medal. Specimens of native commercial woods of the State of New York.

Forest and Stream Publishing Company, New York City. Publications and illustrations.

Hough, R. B., Lowville, N. Y.; 16 square feet. Gold medal. Preparations of wood for the stereopticon and for the microscope; also publication entitled "American Woods."

North Carolina State board of agriculture, Raleigh, N. C.; 227 square feet. Gold medal. Commercial woods of North Carolina.

Peirce, W. E., & Co., Milford, N. H.; 513 square feet. Gold medal. Collection of wooden ware.

Southern Railway Company, Washington, D. C.; annex, 2,200 square feet; inside, 235 square feet. Grand prize. Collection of woods of the southern United States; also the logs, lumber, etc., used in the construction of the annex to forestry building, Champ de Mars.

Total, 5,025 square feet.²

CLASS 51.—*Hunting equipments.*

Barnard, George, & Co., New York (in class 100). Silver medal. Sporting arms.

Forest and Stream Publishing Company, New York. Bronze medal. Publications and illustrations.

Oneida Community, Limited, Kenwood, N. Y.; 154 square feet. Silver medal. The Newhouse animal trap.

Savage Arms Company, Utica, N. Y.; 171 square feet. Gold medal. Repeating rifles.

Smith & Wesson, Springfield, Mass.; 190 square feet. Grand prize. Revolvers and pistols, and shooting gallery at Vincennes.

Tiffany & Co., New York City; 22.5 square feet. Silver medal. Hunting equipments.

Total, 537.5 square feet.

¹ For list of exhibits received and installed too late for jury consideration, see page 12, catalogue of Group IX.

² Exclusive of Vincennes annex.

CLASS 52.—*Products of hunting.*

- Asch & Jaeckel, New York City (in class 85). Gold medal. Manufactured furs and skins.
- Century Company, New York. Drawings of seals, sea lions, etc., made by Charles B. Hudson; 20 square feet. Honorable mention.
- Department of Agriculture, U. S. A., Washington, D. C.; 24 square feet. Silver medal. Mounted groups of raccoons and opossums.
- Elliot, Dr. D. G., Field Columbian Museum, Chicago; 2 square feet. Silver medal. Publications upon birds.
- Forestry and Stream Publishing Company, New York. Honorable mention. Publications and illustrations.
- Gunther, J., Middletown, N. Y.; 80 square feet. Silver medal. Mounted heads of wild animals.
- Jordan, Dr. David Starr, Stanford University, Cal.; 1 square foot. Publications upon animals, etc.
- Mather, Fred., Lake Nebagomian, Douglas County, Wis.; one-fourth square foot. Honorable mention. Publication on hunting.
- Nelson, E. W., Washington, D. C.; one-quarter square foot. Honorable mention. Report upon collections made in Alaska.
- North Carolina State Board of Agriculture, Raleigh, N. C.; 64 square feet. Gold medal. Series of aquatic birds, groups of loons, quail.
- Phillips, C. S., Glover, Vt. Mounted heads, etc., of deer; 20 square feet. Honorable mention.
- Shiras, George, 3d, Pittsburg, Pa.; 64 square feet. Gold medal. Flashlight pictures of living wild animals.
- Wallihan, A. G., Lay, Colo.; 2 square feet. Honorable mention. Photographs of wild game.
- Total, 277.5 square feet.

CLASS 53.—*Fishing equipment and products—Fish culture.*

- Abbey & Imbrie, New York City; 96 square feet. Gold medal. Angling tackle.
- Adams, Ivers S., collaborator with American Net and Twine Company. Gold medal.
- American Museum of Natural History, Central Park, New York; 10 square feet. Mounted lobster. Weighed 33 pounds when alive.
- American Net and Twine Company, Boston, Mass., fishing nets; 2,458 square feet. Gold medal.
- Atwater, Prof. W. O., chemical laboratory, Wesleyan University, Middletown, Conn.; one-third square foot. Silver medal. Publication upon chemical analysis of fishes and invertebrates.
- Baldwin, A. H., zoological artist, 1826 G street, Washington, D. C.; one-third square foot. Silver medal. Fish drawings.
- Bean, Barton A., U. S. National Museum, Washington, D. C.; one-third square foot. Silver medal. Publications upon fisheries.
- Bean, Tarleton H., 50 West Seventeenth street, New York City; 40 square feet. Gold medal. Gill nets, fishing line, and salmon spear used by Alaskan Eskimo; publication on fish, fisheries, and fish culture.
- Benn, John, San Francisco, Cal.; 24 square feet. Silver medal. Artificial flies.
- Bien, Julius, & Co., 140 Sixth avenue, New York; 64 square feet. Silver medal. Chromolithographs for fish drawings.
- Blackford, Dr. C. M., jr., Craig Brook Station, East Orland, Me. Honorable mention. Publications upon fish culture.
- Bumpus, Prof. H. C., Brown University, Providence, R. I.; one-fourth square foot. Bronze medal. Publications upon marine zoology.

- California Paris Exposition commission, San Francisco, Cal.; 180 square feet. Gold medal. Fishery and fish-culture illustrations; fish casts.
- Dean, Dr. Bashford, Columbia University, New York; one-half square foot. Silver medal. Publications upon development and relationships of fishes, etc.
- Department of forestry and fisheries, etc., United States Commission to Paris; 1 square foot. Photographs of persons eminent as investigators and authors in various branches of natural history.
- Eigenmann, Prof. C. H., Indiana University, Bloomington, Ind.; 1 square foot. Silver medal. Publications upon fishes and other aquatic animals.
- Evermann, Dr. B. W., United States Fish Commission, Washington, D. C.; 1 square foot. Gold medal. Publications upon fishes of North America, West Indies, etc.
- Forest and Stream Publishing Company, New York. Gold medal. Publications and illustrations.
- Fraine, Thomas W., 16 Joslyn Park, Rochester, N. Y.; 18 square feet. Silver medal. Rainbow trout, Sunapee trout, and grayling.
- Green, Monroe A., Rochester, N. Y.; 1 square foot. Bronze medal. Box for transporting eggs of fish; artificial flies on barbless hooks.
- Henshall, Dr. J. A., Bozeman, Mont.; one-half square foot. Silver medal. Publications on fishes.
- Hooper, W. J., Manufacturing Company, 116 South street, Baltimore, Md.; 30 square feet. Silver medal. Models of seines, nets, and traps used in the fisheries. (Nearly all of the Hooper nets were exhibited in fish-foods section, agriculture, where they occupied 54 square feet of space.)
- Howarth, S., Florissant, Colo.; 12 square feet. Silver medal. Artificial flies for trout and grayling.
- Jordan, Dr. David Starr, Leland Stanford Jr. University, Cal.; 2 square feet. Gold medal. Publications upon fishes, cetacea, etc.
- Kendall, Dr. W. C., United States Fish Commission, Washington, D. C.; one-half square foot. Bronze medal. Publications relating to fish and fisheries.
- Kirsch, P. H., Benson, Ariz.; one-fourth square foot. Honorable mention. Publication of fishes.
- Kofoed, Prof. C. A., Illinois laboratory of natural history, Urbana, Ill.; one-fourth square foot. Honorable mention. Publications upon fresh-water zoology.
- Kunz, George F., collaborator with Tiffany & Co., New York. Gold medal.
- Linton, Prof. Edwin, biological laboratory, Washington and Jefferson College, Washington, Pa.; 1 square foot. Silver medal. Publications upon fish parasites.
- McCarthy, Eugene, Syracuse, N. Y.; one-fourth square foot. Publications upon fish and fishing.
- Massachusetts board of Paris Exposition managers, Boston; 216 square feet. Gold medal. Model of Gloucester fishery and fishery apparatus.
- Mather, Fred, Lake Nebagomai, Douglas County, Wis.; one-fourth square foot. Honorable mention. Publications upon fish and fishing.
- Meek, Seth Eugene, Field Columbian Museum, Chicago; one-fourth square foot. Bronze medal. Publications upon fish.
- Milam, B. C., & Son, Frankfort, Ky.; 4 square feet. Silver medal. Fishing reels.
- New Bedford Oil Company, East Boston, Mass.; 18 square feet. Gold medal. Watch, clock, and chronometer oils.
- Rogers, W. H., 257 Washington street, Boston, Mass.; 1 square foot. Honorable mention. Drawings of the Rogers fishway.
- Smith, Hugh M., United States Fish Commission, Washington, D. C.; 1 square foot. Gold medal. Publications upon fish and fisheries.
- Smith, Eugene, 317 Washington street, Hoboken, N. J.; one-fourth square foot. Publications upon fish and reptiles.
- Smith, Jay C., 26 T Wharf street, Boston, Mass.; 12 square feet. Models of lobster-fishing dory and pots.

- Stejneger, Dr. Leonhard, United States National Museum, Washington, D. C.; 1 square foot. Gold medal. Publications upon fur seal, sea cow, natural history of Commander Islands, etc.
- Stevenson, C. H., United States Fish Commission, Washington, D. C.; one-half square foot. Silver medal. Publications upon fishery methods and preservation of fish for food.
- Tanner, Commander Z. L., U. S. N., 1613 New Hampshire avenue, Washington, D. C.; one-fourth square foot. Gold medal. Publication upon deep-sea investigations.
- Tiffany & Co., Union square, New York; 22.5 square feet. Gold medal. American fresh-water pearls, and shells in which they are found.
- Titcomb, John W., president fish and game commission, St. Johnsbury, Vt.; one-fourth square foot. Honorable mention. Publications relating to fish, fisheries, and fish culture.
- True, F. W., Washington, D. C.; one-fourth square foot; silver medal. Publication relating to the dolphins.
- United States Commission of Fish and Fisheries, Washington, D. C.; 500 square feet; grand prize. Models of apparatus for hatching and transporting fish; models and drawings of fishes; photographs and statistics.
- Wilcox, W. A., United States Fish Commission, Washington, D. C.; one-half square foot; silver medal. Publications relating to fish and fisheries.
- Wing, J. & W. R., New Bedford, Mass.; 56 square feet; silver medal. Whaling implements.
- Woolman, Prof. A. J., central high school, Duluth, Minn.; one-fourth square foot; bronze medal. Publications relating to fish and fisheries.
- Total, 3,777 square feet.

CLASS 54.—*Appliances for gathering wild crops, and products obtained.*

- Brimley, H. H., collaborator with North Carolina board of agriculture, Raleigh. Silver medal.
- Bruner, Prof. T. K., collaborator with North Carolina board of agriculture. Raleigh. Gold medal.
- North Carolina State board of agriculture, Raleigh, N. C.; 212 square feet. Grand prize. Collection of herbs, roots, barks, seeds, etc., used in medicine.

Forestry annex, Vincennes.

	Square feet.
Cypress shingles.....	168. 75
Miscellaneous hardwoods	825
North Carolina pine	816. 75
Maple flooring	204. 75
Yellow pine.....	272
Baltimore lumber exchange	531
Miscellaneous hardwoods	1, 056
Office	270
Total	4, 144

Awards to the United States exhibitors.

Number of exhibitors:	
Class 49	7
Class 50	11
Class 51	6
Class 52	12
Class 53	47
Class 54	1
Total.....	84
Number of awards.....	92

Awards to the United States exhibitors—Continued.

	Grand prizes.	Gold medals.	Silver medals.	Bronze medals.	Honorable mentions.
Class 49.....		1	3		1
Class 50.....	2	11	2	1	
Class 51.....	1	2	6	1	
Class 52.....		3	3		6
Class 53.....	1	15	19	6	5
Class 54.....	1	1	1		
Total.....	5	35	34	8	12
Per cent.....	6	39	40 $\frac{1}{2}$	9 $\frac{1}{2}$	14

Comparison of awards.

	Exhibitors.	Awards.	Grand prizes.	Gold medals.	Silver medals.	Bronze medals.	Honorable mentions.	Percentage of exhibitors.				
								Grand prizes.	Gold medals.	Silver medals.	Bronze medals.	Honorable mentions.
Austria.....	99	111	9	19	38	23	22	9	19	38	23	22
Belgium.....	22	272	5	17	17	22	11					
Ecuador.....	45	46		5	12	16	13		11	27	35	29
France.....	899	766	51	141	228	198	148	5 $\frac{1}{2}$	15 $\frac{1}{2}$	25	22	16
Great Britain.....	139	106	14	27	35	9	21	10	19	25	6	15
Hungary.....	241	148	11	30	25	40	42	4 $\frac{1}{2}$	12 $\frac{1}{2}$	10	16 $\frac{1}{2}$	17
Italy.....	48	19	1	4	6	4	4	2	8	12	8	8
Japan.....	32	30	3	7	5	10	5	9	20	16	31	16
Mexico.....	185	65	2	11	11	14	27	1	6	6	7 $\frac{1}{2}$	15
Norway.....	50	30	2	14	4	5	5	4	28	8	10	10
Portugal.....	203	132	5	11	26	33	57	2 $\frac{1}{2}$	5 $\frac{1}{2}$	13	16	28
Roumania.....	38	32	4	8	12	7	1	10 $\frac{1}{2}$	21	32	18	3
Russia.....	101	105	12	19	25	30	19	12	19	25	30	19
Sweden.....	27	11	2	4	3		2	7	22	11		7
United States.....	84	92	5	33	34	8	12	6	39	40 $\frac{1}{2}$	9 $\frac{1}{2}$	14

a Fifty-one of these are to collaborators, and nearly all in class 51.

DESCRIPTION OF EXHIBITS.

FORESTRY.

The forestry palace was located upon the left bank of the Seine. The United States section occupied the extreme west end of the building on the level of the street, the main floor of the palace being below the street level and reached by stairways. The east front of the United States section was made conspicuous by its flag decorations and its draped netting, while the large south and west windows furnished locations for colored transparencies representing forest scenes, cultivated valleys, and characteristic wild game. The walls inclosing the space were filled with illustrations showing the relation of forestry to agriculture, the distribution of the forests, the amount of rainfall, the methods and objects of various important fisheries, and incidentally, the game animals of our country. The overhead space was devoted to models of the principal nets employed in the fisheries, and to decorative features.

The scope of the scientific forestry exhibit was well expressed in the preliminary outline furnished by Forester Pinchot as a basis for collecting the materials. The exhibit consisted very largely of photographs and transparencies, illustrating the relation of forests to agriculture. The pictures were of such a size and character as not only to attract attention, but also to illustrate forcibly the various points which it was desired to emphasize. In addition, maps, models, and a few striking specimens of southern timber were included to diversify the exhibit and permit it to cover a still wider field.

Among the subjects included were the relation of forests to water supply, the destruction of agricultural lands by the floods of torrential streams, such as are taking place with increasing frequency and destructiveness in the valley of the San Gabriel River, in southern California, the relation of irrigation works to forestry, and the protection which they derive from well-wooded watersheds. The important influence of wind-breaks on the well-being of the farmer, determining, as they often do, the presence or absence of crops, were effectively displayed. Since the timber raised in wind-breaks has an important function in supplying the farmer with fuel and fences, and since his well-being is intimately related to the great sources of timber supply in the mountains and elsewhere, the effect of good and bad lumbering upon the preservation of forests was also shown.

The disastrous effects of forest fires upon crops, buildings, and fences also received attention. There was also an exhibit of the American literature of forestry, so far as it relates to agriculture and practical work in the woods.

On account of the unique character of the forest exhibit and the unusual attention given to it by visitors, a complete copy of the descriptive labels relating to the collection is given elsewhere.

The forestry pictures were made especially for the United States Commission to the Paris Exposition under the direction of the Secretary of Agriculture. They were planned by the forestry division of that department, but were installed in accordance with the general plan of the department to which they belonged. Two of the transparencies are 10 feet high, although divided in the middle on account of the great difficulty of handling the heavy plate glass. One of these represents a giant sequoia or "big tree" of the Yosemite Valley, and the other shows a group of immense sugar pines. A third subject is the rich semitropical plain of Redlands, Cal., and a fourth represents a beautiful stretch of valley and timber in Ashe County, western North Carolina.

The large transparencies were installed in the north window. The adjacent walls and partitions were covered with bromide enlargements of large size, some of them being 6 feet long.

The planks of North Carolina, representing 18 important commercial species, rested upon the floor against the wall, and were about 4 feet in length and $\frac{1}{4}$ inches thick. The upper half of each plank was polished, and the lower half left natural but smooth. The bark was left on the two outer edges. These specimens were loaned by the North Carolina State board of agriculture and supplemented admirably the other features of the agricultural forestry exhibit.

Other forest products furnished by the State of California were displayed upon the walls and partitions surrounding the space. These included a number of fine boards, short planks, and burls, representing the pine, laurel, walnut, redwood, locust, and spruce.

By way of decoration the great cones of the sugar pine were installed along the top of the background upon which other exhibits were arranged, and these were alternated with cones of the pitch pine of the South and of the remarkable knob cone pine of California.

The forestry annex on the Champ de Mars was reached by passing through class 50 of the palace of forestry. It was distant about 60 feet from the main exhibit of the United States in the forestry palace. The building in itself constituted an exhibit of American logs, shingles, flooring, doors, sash, and other forest products. The annex was 100 feet long, 22 feet wide, and in the central portion 35 feet high. It was a combined fort and log house. The top of the building was surmounted by a flag pole 30 feet high. The front was ornamented by a burgee 15 feet long, bearing the word "Forestry" in large letters. Various decorative features served to improve the appearance of the entrance, such as an eagle with flags, skins of opossums, and raccoons attached as they would be on a trapper's cabin, antlers of deer, and climbing vines. The inner walls were decorated with hunting and fishing trophies, skins of deer, bear, wildcat, together with arms and appliances for hunting and fishing. The walls were further embellished by means of flags, bunting, shields, palm leaves, and pine cones.

Attached to the windows of the annex were the thin wood sections illustrating more than 250 species of the woods of the United States, prepared for the United States Commission by R. B. Hough. Each species of wood was represented by three sections—a longitudinal, a transverse, and a tangential. Seen by transmitted light, the cell structure and the coloration were clearly visible even to the unaided eye, and the effect was extremely pleasing and instructive. The purely ornamental character of this exhibit was secondary, of course, to its great scientific and practical value to botanists, architects, and civil engineers.

The Southern Railway Company, of Washington, D. C., constructed a pavilion 12 feet square, near the east end of the annex. This pavilion was made up of panels, posts, planks, and short boards representing upward of 70 species of commercial timbers of the Southern States in regions traversed by the lines of the company. This exhibit also

included a number of large sections of trees and numerous illustrations of forests, and of the methods employed in developing forest industries. The following is a list of the woods exhibited by the company:

Miscellaneous collection of timber specimens found along the line of the Southern Railway.

No. 1. Curly yellow pine.	No. 25. Spanish oak.	No. 49. Sassafras.
No. 2. June berry.	No. 26. Rhododendron.	No. 50. Black birch.
No. 3. Curly yellow poplar.	No. 27. Wild cherry.	No. 51. Loblolly pine.
No. 4. Black haw.	No. 28. Sugar maple.	No. 52. Curly white ash.
No. 5. Figured black walnut.	No. 29. Locust.	No. 53. Black walnut.
No. 6. Wild cherry.	No. 30. Buckeye.	No. 54. Cypress burl.
No. 7. Sour wood.	No. 31. Persimmon.	No. 55. Black walnut.
No. 8. Locust.	No. 32. Iron wood.	No. 56. Red maple.
No. 9. Red birch.	No. 33. Black Walnut.	No. 57. Yellow poplar.
No. 10. Black walnut.	No. 34. Sour wood.	No. 58. Yellow pine.
No. 11. Black jack oak.	No. 35. Spanish oak.	No. 59. Quartered white oak.
No. 12. Black birch.	No. 36. Catalpa.	No. 60. Chestnut.
No. 13. Black oak.	No. 37. Chestnut.	No. 61. Black walnut.
No. 14. Persimmon.	No. 38. Red cedar.	No. 62. Curly yellow poplar.
No. 15. Cotton tree.	No. 39. Holly.	No. 63. Curly long-leaf pine.
No. 16. White oak.	No. 40. Elm.	No. 64. Curly long-leaf pine.
No. 17. Yellow pine.	No. 41. Rock maple.	No. 65. Wild cherry.
No. 18. Shell-bark hickory.	No. 42. Black walnut.	No. 66. White walnut.
No. 19. Chinquapin.	No. 43. Black gum.	No. 67. Beech.
No. 20. Buckeye.	No. 44. Bass wood.	No. 68. Mulberry.
No. 21. Juneberry.	No. 45. Hickory.	No. 69. Post oak.
No. 22. White hickory.	No. 46. Yellow pine.	No. 70. Yellow wood.
No. 23. Peach.	No. 47. Dog wood.	No. 71. Swamp maple.
No. 24. Curly red maple.	No. 48. Curly black walnut.	No. 72. Red oak.

The commercial timbers of North Carolina were here shown in considerable variety by the State board of agriculture of that State. The species were represented by planks of the same size as those mentioned in the description of the scientific forestry exhibit, and finished in a similar manner.

A complete list of the North Carolina woods obtained from the board of agriculture is appended hereto:

List of woods of North Carolina from North Carolina board of agriculture.

No. 110. Cucumber.	No. 119. Curly yellow poplar.	No. 128. Birch.
No. 111. Post oak.	No. 120. Persimmon.	No. 129. Tupelo gum.
No. 112. Magnolia.	No. 121. Oak.	No. 130. White maple.
No. 113. Sassafras.	No. 122. Live oak.	No. 131. Sugar maple.
No. 114. Dogwood.	No. 123. Beech.	No. 132. Cucumber.
No. 115. Spanish oak.	No. 124. Carolina poplar.	No. 133. Sweet gum.
No. 116. Spanish oak.	No. 125. Linden.	No. 134. Savanna pine.
No. 117. Holly.	No. 126. White elm.	No. 135. Redheart hickory.
No. 118. Mountain birch.	No. 127. Chestnut.	No. 136. White oak.

The New York commission of fisheries, game, and forest exhibited six floor screens on which were displayed short boards representing 70 species of commercial woods of that State. These boards were each about 15 inches long, 1 inch thick, and with an average width of 5 inches. Each species, as far as possible, was represented by a piece naturally finished and by another which was polished. All the edges were smooth.

The variety of timber resources of New York as represented by the exhibit in the forestry annex was a source of much astonishment to visitors. The following is a complete list of the specimens:

No. 1:

American holly, 2 pieces.
 Basswood, 3 pieces.
 Tulip tree, or yellow poplar, 3 pieces.
 Cucumber tree, 2 pieces.
 Red or swamp maple, 2 pieces.
 Hard, rock, or sugar maple, 4 pieces.
 Horse-chestnut, 2 pieces.
 Ailantus, 2 pieces.
 Locust, 2 pieces.
 Coffee tree, 3 pieces.
 Staghorn sumac, 2 pieces.
 White or water maple, 3 pieces.

No. 2:

Mountain ash, 2 pieces.
 Wild crab apple, 2 pieces.
 Apple, 2 pieces.
 Black cherry, 2 pieces.
 Wild red cherry, 2 pieces.
 White ash, 2 pieces.
 Persimmon, 2 pieces.
 Tupelo or sour gum, 2 pieces.
 Flowering dogwood, 2 pieces.
 Sweet gum, 2 pieces.
 Red ash, 3 pieces.
 Green ash, 2 pieces.
 Black ash, 3 pieces.
 White ash, 2 pieces.

No. 3:

Nettle tree or hackberry, 2 pieces.
 Rock elm, 2 pieces.
 Red or slippery elm, 2 pieces.
 American elm, 2 pieces.
 Sassafras, 2 pieces.
 Red mulberry, 4 pieces.
 Sycamore, 4 pieces.
 Black walnut, 2 pieces.
 Butternut, 2 pieces.
 Kingnut hickory, 2 pieces.
 Shagbark hickory, 2 pieces.
 Pignut hickory, 2 pieces.
 Mockernut hickory, 2 pieces.

No. 4:

Chestnut oak, 2 pieces.
 Red oak, 4 pieces.

No. 4—Continued.

Bitternut hickory, 2 pieces.
 Small-fruited hickory, 2 pieces.
 White oak, 4 pieces.
 Pin oak, 3 pieces.
 Chinquapin oak, 2 pieces.
 Black-jack oak, 2 pieces.
 Scarlet oak, 2 pieces.
 Swamp white oak, 2 pieces.
 Post oak, 2 pieces.
 Bur oak, 3 pieces.

No. 5:

Black oak, 4 pieces.
 Chestnut, 2 pieces.
 Beech, 2 pieces.
 Hop hornbeam or ironwood, 2 pieces.
 Blue beech, 2 pieces.
 Black or sweet birch, 2 pieces.
 Yellow birch, 2 pieces.
 River birch, 2 pieces.
 White birch, 2 pieces.
 Canoe birch, 2 pieces.
 Peach willow, 2 pieces.
 Black willow, 2 pieces.
 Balsam poplar, or balm of gilead, 2 pieces.
 Large American aspen or poplar, 2 pieces.

No. 6:

Small American aspen or poplar, 2 pieces.
 Downy poplar, 2 pieces.
 Cottonwood, 2 pieces.
 White cedar or arbor vitæ, 2 pieces.
 Norway or red pine, 2 pieces.
 White pine, 2 pieces.
 Pitch pine, 2 pieces.
 Jersey pine, 2 pieces.
 Yellow pine, 2 pieces.
 Hemlock, 2 pieces.
 Black spruce, 2 pieces.
 Red spruce, 2 pieces.
 Balsam, 2 pieces.
 Red cedar, 2 pieces.
 Tamarack or hackmatack, 2 pieces.

California had a very large collection of woods of the State, including several important commercial species, such as the redwood, walnut, pine, spruce, cedar, laurel, locust, and sycamore. A redwood plank 16 feet long and 6 feet wide was a feature of this exhibit.

Specimens of the yucca, utilized for art work and as surgical appliances, were included in the collection. Much attention was given, however, to the plain redwood and redwood burls and walnut. A fragment of bark of the Sequoia, or "big tree," nearly 2 feet thick, attracted a great deal of attention. Another feature was the oak bark used for tanning purposes. The photographs showing portable mills, flumes, logging and milling operations, big trees, and forest scenery were unusually fine.

The E. D. Albro Company and the Bridgeport Wood Finishing Company, of New Milford, Conn., jointly made an exhibit of polished wood panels in two large wing screens. The screens contained 96 panels, covering a great number of species of ornamental and plain woods, all of which were so highly polished as to produce reflections almost like plates of glass, and it was difficult to convince many visitors that the wood was not covered with glass, so difficult, indeed, at times, as to lead them to use the point of a pin or a knife to make scratches on the surface and satisfy themselves as to its nature. The wood filler used to produce this high polish also formed a part of the exhibit.

Romeyn B. Hough displayed his work, entitled "American Woods," in eight volumes, the illustrations in each volume consisting of actual wood specimens, thin sections of the same character as those described in the exhibit made by the United States Commission to the Paris Exposition. He also displayed thin wood sections prepared for use with the stereopticon and the microscope.

A very large series of wooden ware articles, manufactured by W. E. Peirce & Co., of Milford, N. H., was arranged upon the walls and the floor of the west end of the forestry annex. This collection embraced more than 500 varieties, including barrels, kegs, tubs, pails, baskets, bowls, clothespins, clothes racks, desks, tables, piano stools, handles, rods, hoops, toothpicks, excelsior, brooms, knobs, spigots, ironing boards, washboards, and a multitude of other household objects almost entirely unfamiliar to foreigners, remarkably cheap and admirably adapted for introduction as articles of export. These manufactures attracted nearly all the visitors who came into the annex, and there is no doubt that a great field could be found in which to introduce them for common use, but the details of the traffic would have to be carefully attended to in order to make it financially successful. Wooden ware is extensively produced in several countries of Europe, but only as the result of what may be called a household industry. On this account the prices are high, and the general use of the articles by the poorer classes is rendered impossible.

The forestry annex at Vincennes was really a private exhibit, and its contents were of the same nature. They were designed to show the commercial forest products more fully and effectively than could

be done in the small space available for forestry in the main palace and the annex on the Champ de Mars. Mention has already been made of the preliminary steps taken by the Commissioner-General resulting in the formation of an honorary advisory board of lumbermen, with Mr. William A. Bennett as chairman and Mr. John E. Williams as secretary. After this stage of the preparatory work had been passed, the affairs were left entirely in charge of the advisory board, which assumed all responsibility and met all expenses.

The building was located on a plat of ground containing 15,000 square feet. The structure was 50 feet wide by 147 feet long. It was intended as an exhibit of the building materials of our country, and of the method in which they could be effectively placed in construction. The number of exhibitors who contributed either to the building and maintenance fund, or by sending collections, was 213. The floor space was divided up into sections, as shown on the accompanying plan, and was occupied by the following associations: The North Carolina Pine Association, the Maple Flooring Manufacturers' Association, the Baltimore Lumber Exchange, of Baltimore, Md., the pitch pine manufacturers, and the hardwoods exporters.

For a complete list of exhibitors, reference should be made to the official catalogue.

Unfortunately, this building was not opened to the public until after the jurors had finished their work, and it was impossible to secure awards.

FISHERY.

The separation of the fishery products from the exhibits illustrating objects, methods, and apparatus of the fisheries proved a great obstacle in the way of forming our collections. Fish-food products under the classification were assigned to class 58, Group X, in the palace of agriculture, and most of them were displayed in that building. The rule, however, was not strictly enforced, for a number of exhibitors from countries other than the United States displayed the results of the fisheries in the palace of forestry and fisheries. This lack of uniformity in carrying out the classification extended still further and included the pavilions and other buildings, in which various countries made a complete display representing their arts and industries. Illustrations of this statement were to be found in the Rue des Nations and in other parts of the Exposition grounds, where such countries as Norway, Algeria, Mexico, Canada, and others brought together under the most favorable conditions materials relating to forestry, fisheries, and the chase.

In the palace of forestry, Russia and Austria in particular furnished illustrations of this irregularity.

The same lack of uniformity in the application of the rules of classification caused the United States the loss of a number of important

exhibits in taxidermy. Some influential firms desired greatly to make comprehensive and costly exhibits at Paris in the United States section, but when they were informed that fur rugs and garments were strictly separated in classification, and consequently in location, from crude undressed skins and mounted specimens of the taxidermist's art they withdrew their applications rather than undergo the expense and trouble involved in duplicate exhibits. When it was discovered after the opening of the forestry palace that the classification in this respect had been ignored, it was felt that a great injustice had been done to intending exhibitors of the United States.

The United States Government, as a matter of course, is in possession of the most interesting and complete collections illustrating the objects, methods, and apparatus of the fisheries, and the appliances and processes of fish culture. These collections are in the custody of the United States Commission of Fish and Fisheries, and to that bureau the fisheries exhibit of the United States at Paris was more indebted than to any other source. The value and significance of the collections thus secured were attested to by the diploma and medal of grand prix awarded to that bureau for its participation.

The display of the United States Commission of Fish and Fisheries was primarily intended to illustrate the objects, methods, and apparatus of the fisheries, their statistics, and the modern appliances by means of which aquatic animals are increased and distributed. It contained a very large series of flexible casts of fish produced from plaster molds of the fish in their natural state, the material for the casts being a kind of gelatine, and the finished reproductions having received colors in imitation of the tints of the living or recently dead specimens. A great many of the important commercial fishes belonging to the families which include the cod, the hake, the haddock, the flounders, the mackerel, the bass, the salmon, the trout, many richly colored southern species, and a few of the grotesque and rare forms inhabiting the deep seas were brought together in close proximity to a large series of drawings in oil colors made from living fishes. These colored drawings were supplemented by a complete collection of chromolithographs, which were made from them, and which were installed upon the west wall adjacent to the cases containing the casts and drawings. A very large collection of economic mollusks, including most of the well-known species of the east coast and the Gulf of Mexico, as well as a few of the more important Pacific species, was brought to the Exposition, but was displayed only in part because of the lack of room. This collection showed nearly every variety of the oyster existing along the Atlantic and Gulf coasts.

The fresh-water mussels, perhaps best known because they sometimes furnish beautiful pearls, also form the subject of an important industry, that of pearl-button manufacture, and this industry was very

beautifully exploited by the Fish Commission in a collection prepared by Mr. Hugh M. Smith. It was a source of constant surprise to witness the deep interest aroused by the pearl-button series among all classes of visitors. By means of photographs and specimens the various processes of the industry, from dredging the mussels to the completion of the button, were satisfactorily illustrated.

The fish-culture apparatus comprised a model of a modern fish hatchery, an establishment devoted to the culture of white-fish, lake trout, pike, perch, and other similar fish. Every important article of modern fish-culture apparatus was here shown—the McDonald cod box for hatching floating eggs; the troughs with wire-bottom trays, and wire baskets used in hatching eggs of trout and salmon; the glass jars for shad, white-fish, trout, and other kinds of fish; the crates of wooden trays with cloth bottoms for transporting eggs from the spawning ground to the hatchery; the boxes intended to hold egg trays, moss and ice, employed in carrying eggs over long distances; the metal and wooden pans, dishes, tubs, etc., used in taking and carrying fish eggs; the dip nets of various patterns for use in the troughs, jars, and other hatching apparatus; the transportation cans, aerating appliances, and, in fact, every article necessary in and about hatching establishments was shown here in the most compact form possible.

The finest illustration of fish transportation was the model of a railway car employed exclusively in carrying fish and fish eggs, and hatching eggs during transportation. This model, showing all the conveniences for the care of fish and eggs in transportation, as well as for the subsistence and housing of the men employed in it, was one of the great centers of attraction at the Exposition.

The literature of the subject was fully represented in the complete series of reports, bulletins, fishway plans, statistical tables, and other publications of the United States Fish Commission.

The objects of the fisheries formed the chief items sent to Paris by the California Paris Exposition commission. In a group of flexible casts were shown the characteristic sturgeon, salmon, rock cods, flat-fish, prawn, and other edible species of the State. A number of stuffed skins illustrated the striped bass, the tuna, and the great chinook salmon, these three comprising the best known of the anglers' fishes of California. Photographs of angling trophies, the interior of a hatchery, and the principal species of trout and salmon utilized in fish-culture operations, completed the collection.

T. W. Fraine, of Rochester, N. Y., contributed three mounted skins of fish displayed under convex glass on a background representing water, and with the artificial fly frequently used in its capture. The fish thus represented were the rainbow trout, the golden trout of Lake Sunapee, N. H., and the Montana grayling.

A collection of chromolithographs of fish was alluded to in the description of the United States Fish Commission drawings. These

reproductions of colored drawings were originally made for illustrations of a report upon the fish of Porto Rico, prepared for the United States Fish Commission by Mr. Evermann.

The Massachusetts board of Paris Exposition managers exhibited the Gloucester fisheries by means of a model of a portion of the harbor showing fishing boats and vessels, a marine railway, wharves, fish-preserving houses, half models of vessels, fishing implements of an older type, many of which, however, are still in use, models of small sailing craft and fishing boats, and the general equipment of the fishing industry pertaining to that portion of the New England coast. Through the secretary of the same commission, Mr. Walter S. Allen, there was also secured from J. & W. R. Wing, of New Bedford, a small but typical collection of modern whaling apparatus, comprising the following articles: One whalemen's boat spade, handled and ready for use; one toggle iron or harpoon, handled, used in fastening to a whale; one hand lance, handled, used in killing whales; one darting gun, on a pole, with explosive bomb lance (not loaded) used in fastening and shooting whales at the same time from a whaleboat; one shoulder or hand gun, used from a whaleboat, for shooting explosive bomb lances into whales in capturing them.

A very complete line of goods, containing nearly everything of importance to anglers, was furnished by Messrs. Abbey & Imbrie, of New York City. This contained four great divisions of angling tackle—that employed for sea fishing, for bait fishing and trolling, for fly fishing, and for miscellaneous purposes. The exhibit included rods, rod rests, rod butts, reels, landing nets, gaffs, lines, sinkers, leaders, hooks, tackle boxes, swivels, squids, spinners, spoons, fish tongs, thumb stalls, artificial baits, artificial flies and bugs, gangs, hook disgorgers, balances, clearing rings, trolling keels, connecting links, fish scalers and shredders, lubricating oils, cement, stringers, baskets, fly boxes, and reel bands. This exhibit was arranged in four table cases at the north end of the space devoted to United States exhibits.

Fishing nets and lines of whalebone used by the Eskimo of northern Alaska, and an ancient salmon spear manufactured by the same race, were exhibited by Mr. Tarleton H. Bean, of New York City.

A case of artificial flies for trout, salmon, and other game fish of California was furnished by John Benn and daughter, of San Francisco.

The Hooper Manufacturing Company, of Baltimore, Md., furnished a number of excellent models of pound nets, traps, eel pots, and other fishery apparatus.

S. Howarth, of Florissant, Colo., prepared for the Exposition a case of small artificial flies used in the capture of grayling and trout. These flies and the series exhibited by John Benn and daughter represented very well the characteristic forms in use in the West.

B. C. Milam & Son, of Frankfort, Ky., furnished a small lot of their most expensive fishing reels, including one which had been in active use for sixty-one years and is still serviceable.

The lobster shore fishery was illustrated by Jay C. Smith, of T wharf, Boston, Mass., by means of well executed little models of a dory, a lobster fisherman, the lobster, and the half-cylindrical pots used in the lobster fishery of New England.

In addition to the products of the fisheries contributed by the United States Fish Commission there were three other collections which added to the interest of the display. The American Museum of Natural History, New York City, loaned for exhibition a mounted lobster which weighed when alive 33 pounds. This was taken off Sandy Hook, N. J., at a depth of about 100 feet. It was brought to the aquarium of New York City and kept there nearly a week, although it was never in perfect condition, owing to the great difference in pressure in its natural surroundings as compared with the depth of the aquarium tank in which it was confined. The extraordinary size of the lobster excited the wonder of visitors, and many of them were incredulous as to the genuineness of the object.

Fine watch and chronometer oils were satisfactorily shown by the New Bedford Oil Company, of East Boston, Mass. The oils were contained in bottles of the regular trade size, and produced the impression that manufacturers in the United States will hold their own with the best of the producers in foreign countries.

Tiffany & Co., of New York City, displayed the largest and finest collection of fresh-water pearl shells, and of the pearls found in them, that has so far been brought together. Supplemented as it was by the illustrations of pearl-button making in the United States Fish Commission series, this was an extremely instructive and attractive addition to the exhibit of fishery products.

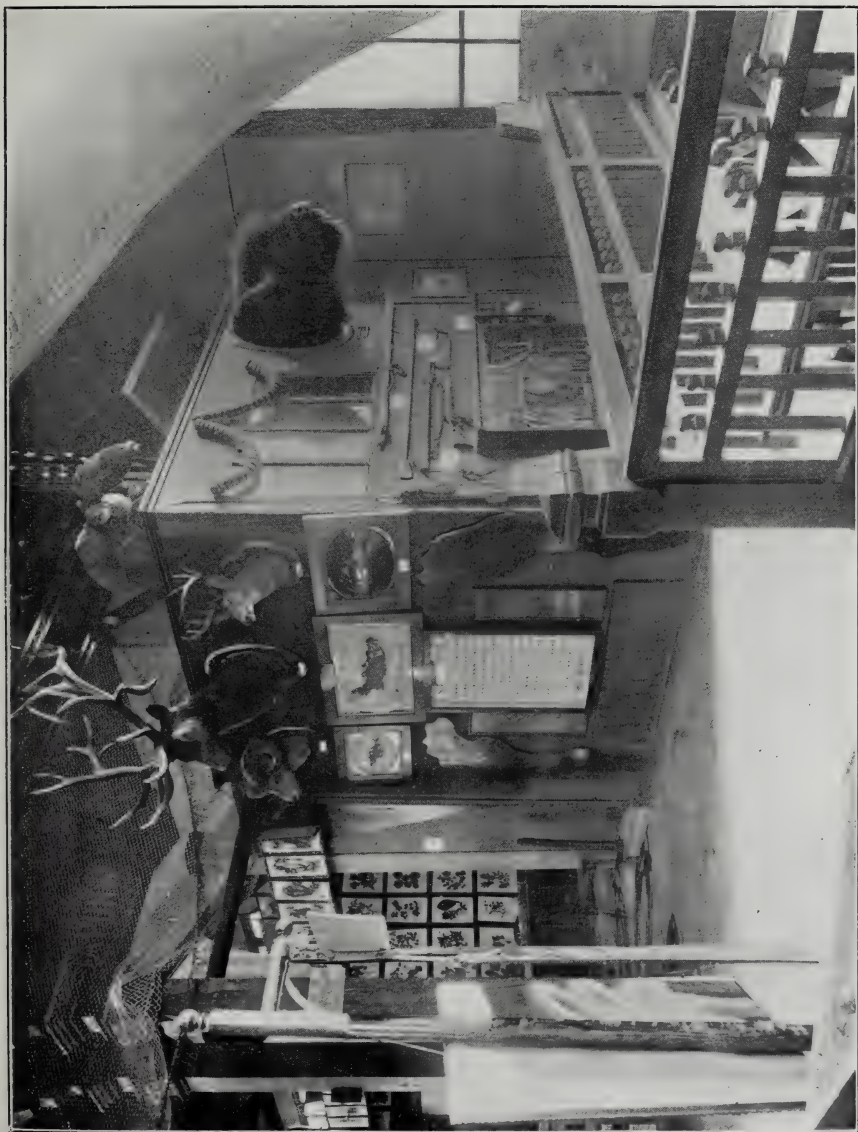
Supplementary to the Fish Commission collections in fish-culture were two exhibits, one by Monroe A. Green and the other by W. H. Rogers, of Boston, Mass. Mr. Green contributed his small egg-transportation box, in which the eggs are carried on small wooden trays with canton-flannel bottoms. Mr. Rogers furnished drawings of his fishway of the type now in use in the Hudson and other rivers.

The Forest and Stream Publishing Company, of New York City, exhibited a complete set of their weekly journal, the *Forest and Stream*, and a very large number of their publications upon natural history, hunting, fishing, yachting, shooting, and allied sports. The company also exhibited a portfolio of animal drawings in black and white, and in colors.

In response to requests sent out by the department of forestry and fisheries, a very large number of separate publications upon forestry, fisheries, fish-culture, and allied subjects was brought together at the



G-9. GAME HEADS AND PICTURES, FORESTRY AND FISHERIES SECTION, CHAMP DE MARS.



G-10. FORESTRY AND FISHERIES SECTION, CHAMP DE MARS, SOUTHEAST CORNER.

Exposition, and this series of books and papers added as much as any other one feature to the results obtained from the juries in the way of awards to the exhibitors.

The following is a list of the authors whose papers were on exhibition, accompanied by a brief synopsis of the nature of their contributions:

Atwater, W. O., Middletown, Conn. Chemical Composition and Nutritive Value of Food Fishes and Aquatic Invertebrates.

Baldwin, A. H., Washington, D. C. Fish Drawings.

Bean, Barton A., Washington, D. C. Publications upon fishes.

Bean, Tarleton H., New York City. Publications upon fish, fisheries, and fish-culture, as follows: Report on the Salmon and Salmon Rivers of Alaska, etc.; Report of the Commissioner of Fish and Fisheries, relative to the Salmon Fisheries of Alaska; Report on the Fishes observed in Great Egg Harbor Bay, N. J.; Observations upon Fishes of Great South Bay, Long Island, N. Y.; The Alaskan Salmon and their Allies; Fishes of Pennsylvania; Oceanic Ichthyology, text; Oceanic Ichthyology, plates.

Blackford, C. M., jr., Washington, D. C. Papers upon fish-culture.

Bumpus, H. C., Providence, R. I. Report on Inland Fisheries; The Identification of Fish Artificially Hatched; The Importance of Extended Scientific Investigation; The Reappearance of the Tilefish.

Dean, Bashford, New York City. Publications upon development and relationship of fish.

Department of forestry and fisheries, United States Commission to Paris Exposition. Photographs of persons eminent as investigators and authors in various branches of natural history.

Eigenmann, C. H., Bloomington, Ind. Papers on Fishes, vol. 46; Papers on Fishes, vol. 47; Fishes, vol. 4; South American Nematognathi, vol. 48; various papers on fishes in one binding.

Elliot, D. G., curator of zoology, Field Columbian Museum, Chicago, Ill. Shore, Game, and Water Fowl, 3 vols.; 1 Elliot's Family of Grouse, 5 parts in 4 parts of folio; 1 Elliot's Birds of North America, 15 parts in 15 parts folio.

Evermann, B. W., United States Fish Commission, Washington, D. C. Fishes of North and Middle America, Vols. I, II, III; Miscellaneous Papers on Fishes of United States, 1 vol., 83-97 (vol. 91-97); A Check-List of the Fishes and Fish-Like Vertebrates of North and Middle America.

Henshall, J. A., Bozeman, Mont. Publications upon fishes.

Hough, Franklin B., Lowville, N. Y. Publications relating to forestry.

Jordan, David Starr, president, Leland Stanford Jr. University, Callifornia. American Fishes, Vols. I, II, III, V, VI; Matka and Kotik; Report of California State Board of Fish Commissioners; Geological Survey of Ohio; The Fur Seal; Synopsis of the Fishes of North America.

Kendall, W. C., Washington, D. C. Publications relating to fish and fisheries.

Kirsch, P. H., Benson, Ariz. Publications upon fish.

Kofoed, C. A., Illinois State Laboratory of Natural History, Urbana, Ill. Protozoa of Lake Michigan; Bulletin of Illinois State Laboratory of Natural History.

Linton, Edwin, Washington and Jefferson College, Washington, Pa. Notes on Entozoa of Marine Fishes of New England, etc., I and II; Mount Sheridan and the Continental Divide; notes on Avian Entozoa; on Fish Entozoa from Yellowstone National Park; notes on Larval Cestode Parasites of Fishes; notes on Cestode Parasites of Fishes; notes on Trematode Parasites of Fishes; notes on Two Species of Larval Dibothria from the Yellowstone National Park; a Contribution to the Life

History of *Dibothrium cordiceps*, a Parasite Infesting the Trout of Yellowstone National Park; on Certain Wart-like Excrescences Occurring on the Short Minnow *Cyprinodon Variegatus*, due to *Psorosperms*; Notice of the Occurrence of Protozoan Parasites (*Psorosperms*) on Cyprinoid Fishes in Ohio; Some Observations Concerning Fish Parasites; an Economical Consideration of Fish Parasites.

McCarthy, Eugene, Syracuse, N. Y. Publications upon fish and fishing.

Mather, Fred, Brooklyn, N. Y. Publications upon hunting, fish, and fishing.

Meek, Seth E., Field Columbian Museum, Chicago. Publications upon fish.

Nelson, E. W., Washington, D. C. Report upon natural history collections made in Alaska.

Smith, Hugh M., Washington, D. C. Publications upon fish and fisheries. One bound volume of 21 papers on fishes; 12 papers on fishes, in one binding.

Smith, Eugene, 317 West Washington street, Hoboken, N. J. The Fishes of the Fresh and Brackish Waters in the vicinity of New York City; The Turtles and Lizards found in the vicinity of New York City.

Stejneger, Leonard, curator, division of reptiles, National Museum, Washington, D. C. Asiatic Fur Seal Islands and Fur Seal Industries; The Russian Fur Seal Islands; Contributions to the Natural History of Commander Islands (Vol. I containing contributions to History of the Sea Cow, Vol. II containing investigations relating to the date of the extermination of Steller's Sea Cow); On the Extermination of the Great Northern Sea Cow (*Rytina*); Report on the Rookeries of the Commander Islands, Season of 1897.

Stevenson, C. H., United States Fish Commission, Washington, D. C. A Review of the Foreign Fishery Trade of the United States; A Bibliography of Publications in the English Language relative of Oysters and the Oyster Industries; Report on the Coast Fisheries of Texas; The Shad Fisheries of the Atlantic Coast of the United States; The Restricted Inland Range of Shad due to Artificial Obstructions and its effect on Natural Reproduction; The Oyster Industry of Maryland; The Preservation of Fishery Products for Food.

Tanner, Commander Z. L., U. S. N., retired, 1613 New Hampshire avenue NW., Washington, D. C. Deep Sea Explorations.

Titcomb, John W., president fish and game commission, St. Johnsbury, Vt. League roster, 1899; Vermont fish and game commission reports, 1896-1898; Propagation of Trout.

True, F. W., Washington, D. C. Publication relating to the dolphins.

United States Commission of Fish and Fisheries, Washington, D. C. All the reports, bulletins, and other special publications of the bureau; also statistics of the fisheries.

Wilcox, W. A., Washington, D. C. Publications relating to fish and fisheries; Paper on Fisheries and Fish Business of Porto Rico; Paper on Fisheries of the Pacific Coast, 1892; Fisheries of the Pacific Coast, 1895; Paper on Fisheries of the Indian River, Florida.

Woolman, A. J., Duluth, Minn. Publications relating to fish and fisheries.

HUNTING.

In hunting equipments the number of exhibitors was small, on account of the cramped accommodations allowed to the United States, but the exhibits were in every way typical and worthy of our country.

Messrs. Barnard & Co., of New York City, included with their exhibit in class 85 in the palace of diversified industries a number of sporting arms. Revolvers, pistols, reloading tools, and the general equipment accompanying weapons of this nature were displayed by Smith & Wesson, of Springfield, Mass., in the forestry palace. This firm also established a shooting gallery at Vincennes for target practice.

The Savage Arms Company, of Utica, N. Y., exhibited all grades of Savage rifles, especially finely finished samples, exhibition actions arranged to show internal mechanism, sights and shells, bullets used with the rifles, and a plate penetrated by missiles fired from one of the guns.

Tiffany & Co., of New York, also had a case of hunting equipments, consisting of guns, revolvers, gun cases, leather bags, knives, cleavers, saws, etc., many of the pieces richly ornamented.

The Oneida Community, Limited, of Kenwood, N. Y., exhibited one mammoth animal trap, and a sample board showing actual size of traps used for the capture of mice, rats, mink, beavers, foxes, wild-cats, bears, and other wild animals.

In products of the chase, Messrs. Ashe & Jaeckel, of New York City, combined with their exhibit of fur garments in the group of textiles a series of raw and prepared skins.

Mr. Jacob Gunther, of Middletown, N. Y., exhibited the heads of buffalo, elk, mountain sheep, deer, etc., referred to in a previous chapter. This collection was loaned to the United States Commission, not from any selfish motive, but purely for the sake of showing adequately the wealth of our products of the chase. Mr. Gunther is not a dealer, and derived no benefit from the exhibition except the satisfaction of having contributed to a worthy cause.

The drawings of whale, sea elephant, sea lion, walrus, sea otter, and fish displayed by the Century Company, of New York City, have been mentioned in another place.

The Department of Agriculture, Washington, D. C., loaned for exhibition a group of raccoons and another representing the opossum.

The State board of agriculture of North Carolina made a noteworthy display of birds, a complete list of which is given below. The group of partridges, or Bob Whites, and the pair of loons were especially attractive examples of the taxidermist's art.

List of game and aquatic birds of North Carolina exhibited at Paris, 1900.

A. O. U.

No.

3. *Colymbus auritus* Linn. Horned grebe.
6. *Podilymbus podiceps* (Linn.). Pie-billed grebe.
7. *Gavia imber* (Gunn). Loon, male.
37. *Stercorarius parasiticus* (Linn.). Parasitic jaeger.
- 51a. *Larus argentatus smithsonianus* Coues. American herring gull.
54. *Larus delawarensis* Ord. Ring-billed gull.
60. *Larus philadelphia* (Ord.). Bonaparte's gull, male.
60. *Larus philadelphia* (Ord.). Bonaparte's gull, female.
69. *Sterna forsteri* Nutt. Forster's tern, male.
69. *Sterna forsteri* Nutt. Forster's tern, female.
77. *Hydrochelidon nigra surinamensis* (Gmel.). Black tern, male adult.
77. *Hydrochelidon nigra surinamensis* (Gmel.). Black tern, immature.
94. *Puffinus fuliginosus* Strickland. Sooty Shearwater.
120. *Phalacrocorax dilophus* (Swain). Double-crested cormorant.

A. O. U.
No.

129. *Merganser americanus* (Cass).
130. *Merganser serrator* (Linn.). Red-breasted merganser, female.
130. *Merganser serrator* (Linn.). ("Dead game" specimen.) Red-breasted merganser, male.
131. *Lophodytes cucullatus* (Linn.). ("Dead game" specimen.) Hooded merganser, male.
131. *Lophodytes cucullatus* (Linn.). ("Dead-game" specimen.) Hooded merganser, male.
132. *Anas boschas* Linn. Mallard, male.
132. *Anas boschas* Linn. Mallard, female.
132. *Anas boschas* Linn. Mallard, female. ("Dead game" specimen.)
133. *Anas obscura* Gmel. Black duck, male.
133. *Anas obscura* Gmel. Black duck, female.
136. *Mareca americana* (Gmel.). Baldpate, male.
139. *Nettion carolinensis* (Gmel.). Green-winged teal, male.
139. *Nettion carolinensis* (Gmel.). Green-winged teal, female.
139. *Nettion carolinensis* (Gmel.). Green-winged teal, female. ("Dead game" specimen.)
140. *Querquedula discors* (Linn.). Blue-winged teal, male, immature.
140. *Querquedula discors* (Linn.). Blue-winged teal, male.
142. *Spatula clypeata* (Linn.). Shoveler, male.
143. *Dafila acuta* (Linn.). Pintail, male.
143. *Dafila acuta* (Linn.). Pintail, female.
144. *Aix sponsa* (Linn.). Wood duck, male.
144. *Aix sponsa* (Linn.). Wood duck, male. ("Dead game" specimen.)
146. *Aythya americana* (Eyt.). Redhead, male.
146. *Aythya americana* (Eyt.). Redhead, female.
147. *Aythya vallisneria* (Wils.). Canvasback, male.
147. *Aythya vallisneria* (Wils.). Canvasback, female.
148. *Aythya marila* (Linn.). American duck, male.
151. *Clangula clangula americana* Faxon. American golden-eye, male.
151. *Clangula clangula americana* Faxon. American golden-eye, female.
153. *Charitonetta albeola* (Linn.). Buffle-head, male.
153. *Charitonetta albeola* (Linn.). Buffle-head, female.
154. *Harelda hyemalis* (Linn.). Old squaw, male.
154. *Harelda hyemalis* (Linn.). Old squaw, female.
165. *Oidemia deglandi* (Bonap.). White-winged scoter, male adult.
166. *Oidemia perspicillata* (Linn.). Surf scoter, male.
167. *Erismatura jamaicensis* (Gmel.). Ruddy duck, male.
- 169a. *Chen hyperborea nivalis* (Forst.). Greater snow goose, male adult.
- 171a. *Anser albifrons gambeli* (Hartl.). American white-fronted goose, male.
172. *Branta canadensis* (Linn.). Canada goose, male.
173. *Branta bernicla* (Linn.). Brant, male.
190. *Botaurus lentiginosus* (Montag.). American bittern, male.
191. *Ardetta exilis* (Gmel.). Least bittern, male.
194. *Ardea herodias* (Linn.). Great blue, adult female.
200. *Ardea cærulea* (Linn.). Little blue heron, imm.
200. *Ardea cærulea* (Linn.). Little blue heron, imm.
201. *Ardea virescens* (Linn.). Green heron, male.
202. *Nycticorax nycticorax naevius* (Bodd.). Black-crowned night heron, female, ad.
202. *Nycticorax nycticorax naevius* (Bodd.). Black-crowned night heron, male, ad.
202. *Nycticorax nycticorax naevius* (Bodd.). Black-crowned night heron, imm.
203. *Nycticorax violaceus* (Linn.). Yellow-crowned night heron, male, ad.
203. *Nycticorax violaceus* (Linn.). Yellow-crowned night heron, female, ad.

A. O. U.
No.

203. *Nycticorax violaceus* (Linn.). Yellow-crowned night heron, imm.
208. *Rallus elegans* (Aud.). King rail, male.
211. *Rallus crepitans* (Gmel.). Clapper rail, male.
212. *Rallus virginianus* (Linn.). Virginia rail, female.
214. *Porzana carolina* (Linn.). Sora, female.
7. *Gavia imber* (Gunn.). Loon, male and female (group mounting).
2b. to 10B:289. *Colinus virginianus* (Linn.). Bobwhite, 3 males, 6 females (group mounting).

C. S. Phillips, of Glover, Vt., exhibited several fine heads of Virginia deer of various ages, a hatrack made from the horns and legs of deer, and a mounted half deer, showing the head and the entire front portion of the animal as if it were coming through a screen of bushes.

The colored transparencies and bromide pictures of wild deer exhibited by George Shiras, 3d., of Pittsburg, Pa., formed an absolutely unique exhibit of night photographs of wild game. They were made by flash-light photography, with the help of apparatus specially devised by Mr. Shiras for the purpose. In order to secure the small number of good negatives now in his possession he has devoted more than ten years of labor to the accomplishment of his object. The colored transparencies it is believed are the first of the kind ever produced, and their success at the Paris Exposition was instantaneous and complete. The attitudes of the animals, the expression of the eyes, the clearly defined reflections in the water, and the entire surroundings combined to make these illustrations the most remarkable of their kind. Mr. Shiras has described his methods of wild game photography in a number of magazines in the United States, but his work was not previously known in Europe.

A large series of daylight pictures of wild game was shown by Mr. A. G. Wallihan, of Lay, Colo. This embraced a great variety of species brought together on sheets, 22 by 28 inches in size, and contained in portfolios.

It is sometimes interesting to observe the impression produced upon visitors at a great exposition by collections representing a country of the importance of the United States.

The following quotation from an article contributed by Mr. Valerian Gribayedoff to the New York Sun, the Utica (N. Y.) Journal, the Atlanta Constitution, and some other newspapers in August, 1900, will give a good idea of the generally favorable impression produced by the fishery and forestry exhibits of the United States:

[From the Utica (N. Y.) Journal, August 19, 1900.]

THE UNITED STATES TO THE FORE.

[By Valerian Gribayedoff.]

As usual, the United States is well to the fore, and is, indeed, almost unique among the exhibiting nations in the respect that her display covers, with the utmost impartiality, the three classes for which the building is designed. Once again she has

been treated with marked favor by the Exhibition authorities, who have allotted to the United States all the circular space at the far end of the long gallery, which, for area and prominence, surpasses that of nearly all the other countries.

When the visitor reaches the American section, he is impressed with the excellent taste and striking appropriateness of the decorations and disposition of the exhibits. From ceiling and the walls hang huge fishermen's nets, implements of the chase, etc., and the heads of antlered stags and big woolly buffaloes add immensely to the general decorative design. The walls are partly wainscoted in representative American woods. The collection of American game birds is the largest in all the vast building, and there is a veritable menagerie of the animals of the forest, mountain, and prairie.

The piscatorial section is most complete and interesting. The United States Fish Commission is represented by a very comprehensive exhibit. A model is shown of a big fish hatchery on Lake Erie, and of the car of the Commission, illustrating the methods of transporting the living fish for transplanting, etc. The Commission also sends three large show cases filled with models of every variety of American fish, two-thirds of which, even edible ones, are absolutely unknown to Europeans.

An admirable exhibit is also sent by the State of Massachusetts in the shape of an enormous model of a Gloucester fishery, representing the port of harbor, the wharves, buildings, flake yards, marine railway, etc., and lying in the harbor the different class of craft employed in the industry.

One large show case is devoted to a demonstration of the Atlantic coast lobster industry, showing the method of catching the succulent crustacean, and displaying the life-sized model of the biggest lobster ever caught off the New Jersey shore, which is regarded by European visitors as a species of sea elephant. A fisherman's outfit of twenty years ago is shown in comparison with the devices employed by him at this end of the century.

The exhibit of American shotguns and rifles is thoroughly representative of the chief manufacturers and dealers throughout all parts of the United States. Many quaint or picturesque little details invest their display with exceptional interest. One of these, for instance, is a steel plate about 14 inches long by 8 inches wide and a quarter of an inch in thickness, on which is shown the head of an Indian chief. Upon investigation one discovers that the outlines are perforated, and a label reveals that the plate served as a target at a distance of 35 feet, when the artist marksman blazed away at it with a certain make of American rifle loaded with a small-caliber bullet.

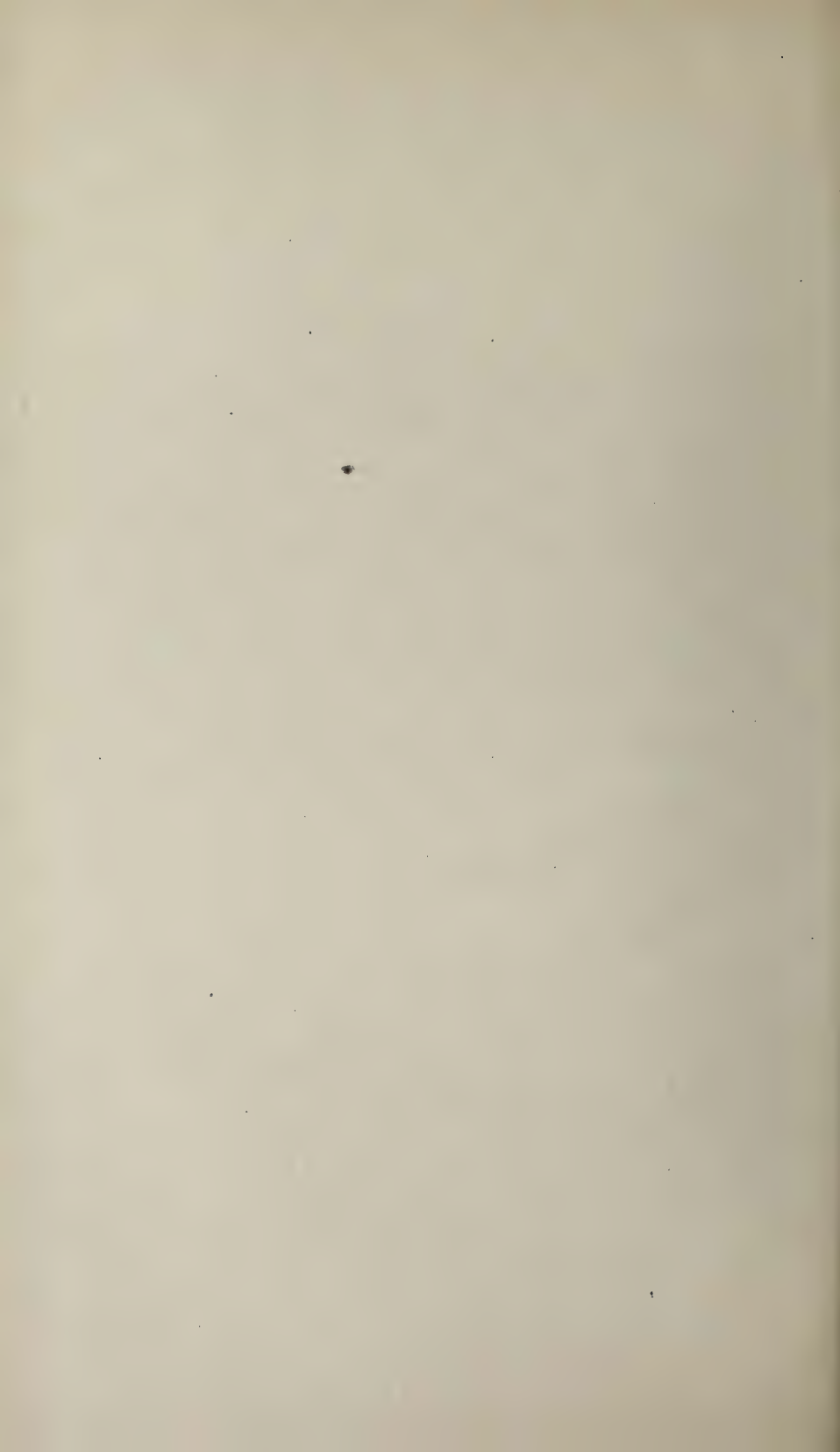
One corner of the American section is devoted to a display of woods from the United States, shown by polished and unpolished slabs, as well as by a series of photographs illustrating the trees in their natural state. The pictures of the gigantic redwoods of California are, naturally, a never-ending theme of wonder to Europeans.

Respectfully submitted.

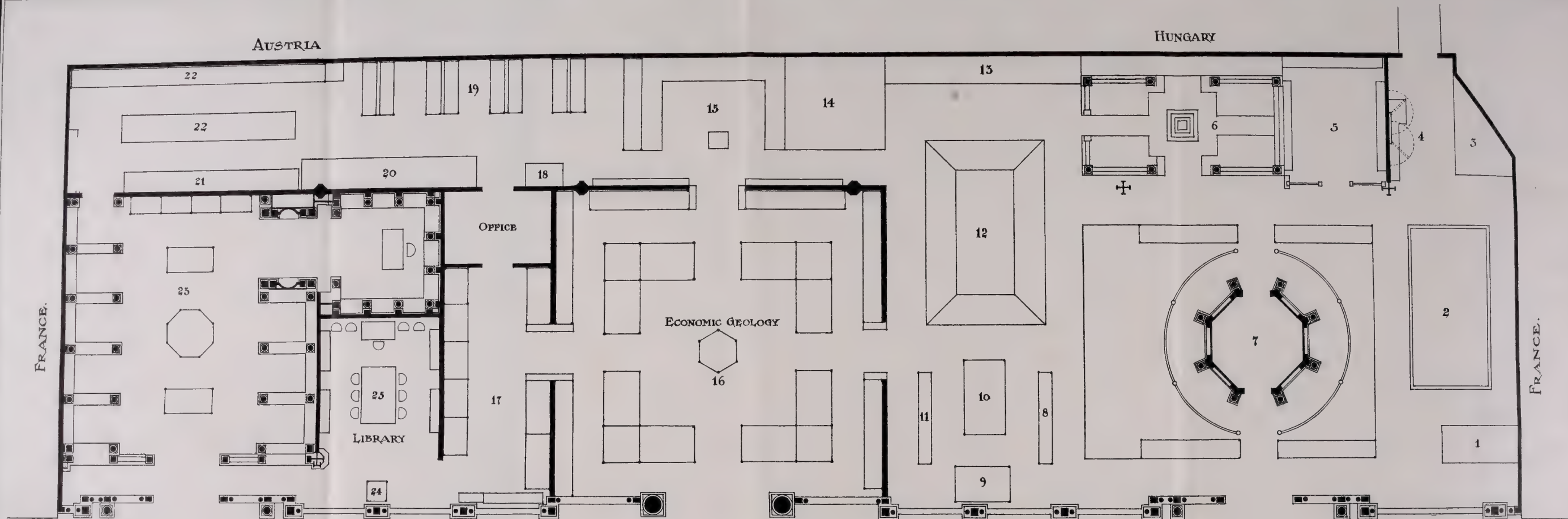
TARLETON H. BEAN,
Director of Forestry and Fisheries.

REPORT OF THE DIRECTOR OF THE DEPARTMENT
OF MINING AND METALLURGY.

F. J. V. SKIFF, DIRECTOR.







PARIS EXPOSITION OF 1900.
 PLAN OF INSTALLATION IN UNITED STATES SPACE
 GROUND FLOOR
 PALACE OF MINES AND METALLURGY.
 GROUP XI.

0 5 10
 SCALE OF FEET.

DEPARTMENT OF MINING AND METALLURGY.

CONTENTS.

Manner and nature of space allotted—Plan of work and subdivision of space—Scientific and technical staff—General staff—Date of appointment and compensation—Geographical distribution of material assembled—The façade and installation—Description of the ore exhibit—Description of the mineralogical, metallurgical, and literary exhibits—Coal and coke—Clay—Building and ornamental stones—Petroleum—Minor metallurgy—Metallurgy—Heavy metallurgical products—Copper, iron, tin, and lead—Appliances and processes—Literary exhibit.

KEY TO INSTALLATION.

[See plan of installation, ground floor and first floor, Group XI, Champ de Mars.]

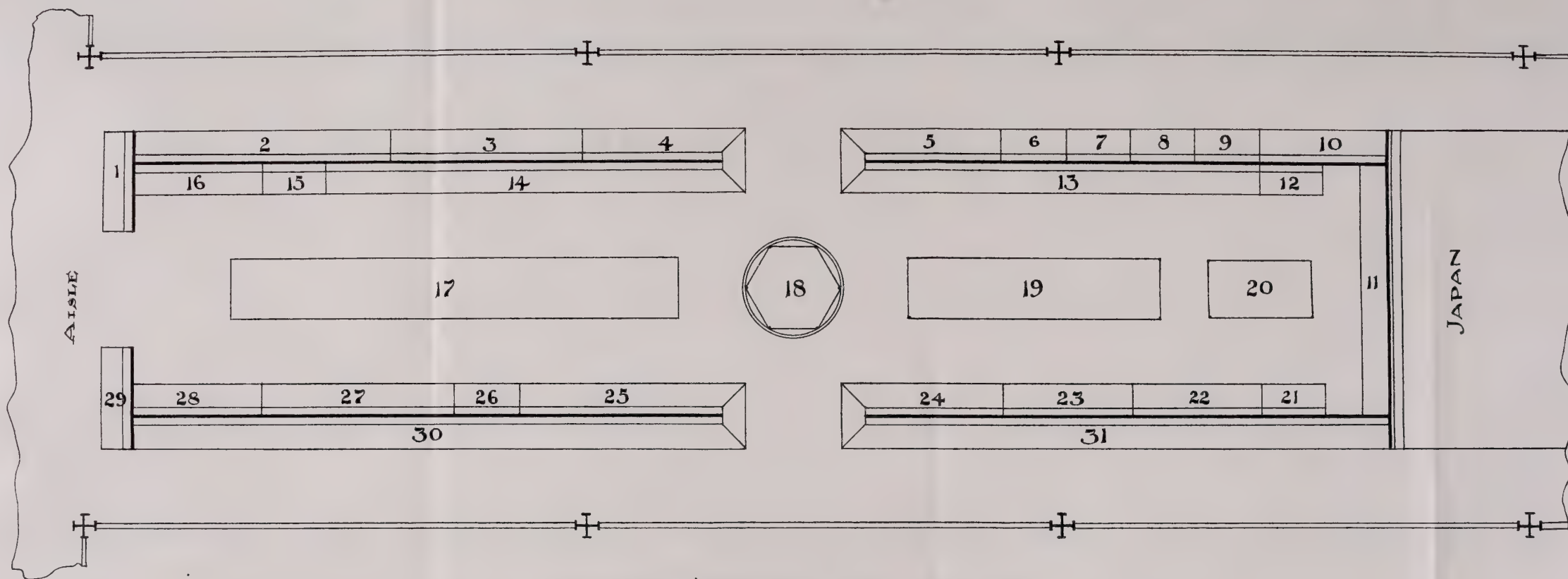
1. Model of a gold mill.
2. Iron and steel exhibit of Colorado Fuel and Iron Company.
3. Petritome.
4. Model of sluices for gold mining.
5. Commercial metallurgical literature. Iron Age Publishing Company, New York.
6. American Tin Plate Company.
7. Exhibit of the American Steel and Wire Company.
8. Collective exhibit building and ornamental stones.
9. North Carolina gems and Arizona chalcedony.
10. Tiffany-Morgan gem collection of the American Museum of Natural History.
11. Clays of the United States and their first product.
12. Copper Queen Consolidated Mining Company.
13. Crescent Steel Company.
14. Barber Asphalt Company.
15. United States collective gold exhibit.
16. Economic geology of the United States. Center case containing \$50,000 free gold specimens.
17. Systematic mineralogy of the United States.
18. Vault for storage of valuable specimens. Hibbard, Rodman, Ely Safe Company.
19. Illinois Steel Company.
20. Crucibles and fire clays and accessories for smelting and refining.
21. Robins Conveying Belt Company.
22. Technical metallurgical exhibit.
23. Petroleum industry of the United States. Standard Oil Company.
24. The Carborundum Company, Niagara Falls, N. Y.
25. Mining and metallurgical literature; headquarters of the American Institute of Mining Engineers and Geological Societies of the United States.

KEY AND TITLES TO ILLUSTRATIONS AND VIEWS.

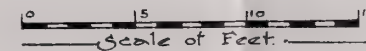
- H-1. Front view of part of ground floor and all of gallery floor, from elevation on opposite space.
- H-2. Main entrance, showing closed porteallis.
- H-3. Looking north from cross-section of gallery.
- H-4. Central hexagonal case in ore room, containing \$50,000 of free gold.
- H-5. Diagonal view of United States ore collection.
- H-6. Building stone, clay, and gem exhibits.
- H-7. Diagonal view No. 2 of the collective ore exhibit.
- H-8. Systematic mineralogy of the United States; exhibit of institutions of learning.
- H-9. Collective coal and coke exhibit.
- H-10. Front view petroleum section; Standard Oil Company.
- H-11. Interior view petroleum section; Standard Oil Company.
- H-12. View of south front, showing entrance to petroleum section; Standard Oil Company.
- H-13. View of one exterior of the minor metallurgy exhibit in the gallery.
- H-14. Entrance to exhibit of American Steel and Wire Company.
- H-15. Colorado Fuel and Iron Company's exhibit.
- H-16. Exhibit of Crescent Steel Company.
- H-17. Exhibit of the Copper Queen Consolidated Company.
- H-18. Exhibit of the American Tin Plate Company.
- H-19. Library and headquarters of American Institute of Mining Engineers, United States Geological Society.
- H-20. The literature of iron and steel. Exhibit made by the Iron Age Publishing Company.

KEY TO INSTALLATION, FIRST FLOOR, GROUP XI.

- 1. E. C. Atkins Company.
- 2. Copper Queen Consolidated Mining Company.
- 3. Ohio Tool Company.
- 4. Atlas Tack Company.
- 5. Atlas Tack Company.
- 6. Shelton Company.
- 7. Metallic Flexible Tubing Company.
- 8. Standard Castor and Wheel Company.
- 9. Wagner Manufacturing Company.
- 10. Hibbard, Spencer, Bartlett & Co.
- 11. J. H. Williams Company, Brooklyn, N. Y.
- 12. Stanley Works.
- 13. Stanley Rule and Level Company.
- 14. American Steel and Iron Manufacturing Company.
- 15. Oneida Community, Limited.
- 16. E. C. Atkins & Co.
- 17. John A. Roebling Sons Company.
- 18. Pike Manufacturing Company, Pike, N. H.
- 19. Fayette R. Plumb.
- 20. Thomas Devlin & Co.
- 21. J. H. Williams & Co.
- 22. Kearney & Foot Company.
- 23. Stover Manufacturing Company.
- 24. Bommer Brothers.
- 25. Eagle Lock Company.
- 26. North Brothers Manufacturing Company.



PARIS EXPOSITION OF 1900.
 PLAN OF INSTALLATION IN UNITED STATES SPACE
 FIRST FLOOR OF PALACE OF MINES AND METALLURGY.
 GROUP XI





27. Phoenix Horse Shoe Company.
28. E. C. Atkins & Co.
29. E. C. Atkins & Co.
30. American Steel and Wire Company.
31. American Steel and Wire Company.

CLASSIFICATION.

GROUP XI.—MINING AND METALLURGY.

CLASS 63.—*Working of mines, ore beds, and stone quarries.*

[Equipment, processes, and products.]

1. Equipment and methods of underground topography. Prospecting for minerals. Apparatus for boring, for making examinations, or for artesian wells. Works for controlling mineral waters. Equipment for and methods of sinking and lining mine shafts. Equipment for and methods of opening galleries. Equipment for and methods of excavating or cutting down in mines or quarries: Hand tools; engines; installations for compression of air; explosives and methods of firing them. Equipment for and methods of underground transportation. Machinery for lifting mineral and lowering rubbish. Machinery and apparatus for lowering and lifting miners. Machinery and pumps for draining. Ventilating apparatus and processes. Air shafts. Lighting apparatus; safety lamps. Safety appliances: Safety catches, signals, etc. Life-saving appliances. Equipment for and methods of handling mining products and for their above-surface transportation: Railways, inclined planes, loose cables, aerial cables and trolleys; appliances for loading wagons, boats, etc. Special machinery and appliances for working salt mines, petroleum wells, gold-bearing sands and gravels, etc. Apparatus for washing and mechanically preparing ores and mineral fuel. Apparatus for compressing fuel. Apparatus for preparing coke: Coke ovens. 2. Ornamental stones, hard stones, or building stones, rough hewn, sawed, or polished. Rocks which produce lime or cement. Grindstones, whetstones, pumice stones, polishing substances. Molding sands; refractory sands. Clays, kaolins, flints, and other substances used in the manufacture of earthenware. Refractory rocks and fire clays. Bauxite. Fluorspar, asbestos, meerschau, graphite, and plumbago. Slates. Gems and precious stones. Rock salt: Salt from salt springs, saltpeter, and nitrates, sulphates, alums, and other natural salts. Boric acid and borax. Raw sulphur and pyrites. Natural mineral paints. Natural mineral fertilizers (phosphates, coprolites, etc.). Mineral fuels: Peat, lignite, bituminous coal, anthracite, coal dust, and compressed coal, raw petroleum, and asphalt. Natural gas. Asphalt and asphaltic rocks, mineral wax, and bitumen, raw yellow amber, and jet. Metallic ores of every kind. Native metals. Systematic collections. Crystallography. 3. Geological maps, charts of underground topography. Relief maps, working plans of mines. Statistics and publications relative to geology, to underground topography, mineralogy, the working of mines, etc.

CLASS 64.—*Metallurgy.*

Equipment for, methods, and products of the manufacture of refractory materials for metallurgical purposes (fire bricks, blocks, crucibles, retorts, etc.). Gas generators and gas furnaces for use in metallurgy. Application of liquid fuels to metallurgy. Treatment of the ores of iron, manganese, and chromium. Equipment for smelting, blast furnaces, blowers, hot-blast apparatus, etc. Equipment of foundries: Cupolas, blowers, and apparatus. Production of pig iron and of castings. Ferromanganese and manganese castings. Alloys of iron. Equipments for, methods, and products of the manufacture of iron and steel in ingots, bars, sheets, or finished

plates and of the production of steel castings. Puddling, reverberatory, and smelting furnaces, hammers, presses, rolls. General arrangement and equipment for producing Bessemer metal or for producing open-hearth steel or crucible steel. Various processes of manufacturing iron or steel directly from the ores, the refining of the metal, the carburization of iron. Equipment for, methods, and processes of the manufacture of iron in commercial forms: Hoop iron, band iron, rods for wire drawing, iron and steel wire, iron of special sections, armor plates, sheet iron for commercial and building purposes, corrugated iron, axles, tires, wheels, large forgings, gun barrels, projectiles, tubes (welded or seamless). Production of galvanized, leaded, or nickeled plates, tin plates (tin plates, bright, dull, mottled, ornamented, printed), cans for preserves or blacking. Treatment of the ores of copper by the dry or by the wet process, equipment and methods in use at copper works. Copper and copper alloys in ingots, bars, and sheets. Treatment of ores of metals: Equipment and process for separation and refining, furnaces for calcination, roasting, smelting, distillation, cupellation, etc.; apparatus and accessories for amalgamation. Tin in ingots. Zinc in ingots and in sheets, zinc white. Lead in pig, sheet lead, lead pipe, mercury, antimony, and oxides of antimony. Nickel in ingots, hammered, drawn, or rolled nickel. Metallic arsenic. Aluminum, alloys of aluminum. Precious or rare metals. Various alloys. Equipment for and methods and products of electric metallurgy. Equipment for and processes of washing goldsmiths' dust and dust from refiners of precious metals.

CLASS 65.—*Metal working.*

[Equipment, methods, and products.]

1. Equipment for and methods used in foundries of bronze, brass, zinc, tin, malleable iron, etc. Special tools, not included in the class of machine tools, used by smiths, farriers, bolt makers, screw cutters, wire drawers, nail makers, buckle makers, chain makers, coppersmiths, plate makers, tinsmiths, edge-tool makers, iron founders, ironmongers, locksmiths, model makers, etc. Appliances and processes for enameling metallic objects. Appliances for exact rolling and for beating of gold, silver, and tin. Apparatus for working platinum. Apparatus and processes (electrometallurgical or other) for coating metals with a more precious, more malleable, or more durable metal. Electroplating. 2. Bells, large and small: Taps, cocks, and machine-made bronzes. Various forgings. Farrier's articles. Horseshoes, oxshoes, etc. Bolts and nuts: Screws for wood or metal. Products of wire drawing and nail making. Tacks, nails, brads, pins, needles. Wire ropes. Barbed wire. Wire fencing, wire cloth, and wire gauze. Products of exact wire drawing. Buckle making: Rings, staples, hooks, hinges. Chain making: Chains without welding. Household utensils in copper and tin. Metal plates, flanged, stamped, cut, decorated, perforated, etc. Enameled plates and castings for buildings, household use and ornament. Hollow ware, plain, polished, japanned, enameled, granitized, lined with porcelain, etc. Drawn tubes and piping in iron, steel, copper, tin, lead, etc. Metallic caps, buttons, eyelets. Metallic pens. Spectacle frames. Springs. Edge tools: Scythes, sickles, pruning hooks, machetes or hacking cutlasses, axes, hatchets, various edge tools, files, etc. Pulleys and pulley blocks. Flatirons. Builder's hardware: Hinges, window fastenings, escutcheons, doorknobs, door knockers and rappers. Locks, padlocks, bolts, keys; exact and safe lock work. Safes and safety vaults. Garden furniture and vases in wrought or cast iron. Stair railings and balusters: Gratings and balconies in wrought and decorated iron. Iron beds and various utensils painted, enameled, or varnished. Summer houses and pavilions in iron or steel: Bird-cages, aviaries, awnings, verandas. Shutters for shop windows: Shutters, screens, and venetian blinds in sheet metal; metal brackets, etc. Various products of exact rolling, and of beating of gold, silver, and tin, metallic foils.

Various products of gilding, silver plating, copper plating, bronzing, galvanizing, nickel plating, electroplating. Galvanized or leaded sheet iron. Builder's work in lead or zinc.

CATALOGUE OF EXHIBITORS.

GROUP XI.—MINING AND METALLURGY.

CLASS 63.—*Working of mines, ore beds, and stone quarries.*

- Abbott, A., Ione, Cal.: Sandstone.
- Acheson, E. G., Niagara Falls, N. Y.: Carborundum and products as formed by its manufacture.
- Acme Mining Company, Robinson Mine, Amador County, Cal.: Gold quartz.
- Adams, F., Mesquite Mountain Mine, Kern County, Cal.: Gold quartz (with pyrite).
- Adams, J. W., Ormsby County, Nev.: Gypsum.
- Afterthought Mining Company, Shasta County, Cal.: Copper ore.
- Ajax Mining Company, Ajax Mine, Mammoth, Utah: Copper ore.
- Alabama Consolidated Iron and Coal Company, Birmingham, Ala.: Shelby brown ores.
- Alabama Mining Company, Alabama Mine, Tuolumne County, Cal.: Gold quartz.
- Alberene Stone Company, New York City: Soapstone and slate.
- Alexander, L. L., Arsenical Mine, Eldorado County, Cal.: Gold quartz.
- Alexander Mining Company, Galena, Kans.: Zinc and lead ore, breccia, sphalerite, and chert.
- Allegheny Quarries, Lancaster, Ohio: Sandstone.
- Allen, J. P., Eureka Quarry, Placer County, Cal.: Granite.
- Alpine Plaster and Cement Company, Acton, Cal.: Gypsum.
- Alps Mining Company, Nevadaville, Colo.: Gold and copper ore.
- Altoona Coal and Coke Company, Altoona, Pa.: Bituminous coal, coke.
- Altoona Quicksilver Mining Company, Altoona Mine, Trinity County, Cal.: Quicksilver ore, cinnabar.
- Alvörd, J., Alvord Mine, San Bernardino County, Cal.: Gold in calcite.
- Amador Mining Company, Amador County, Cal.: Rich gold quartz, telluride, azurite, foot wall, kaolin clay.
- Amador Sandstone Company, Amador, Cal.: Sandstone.
- American Coal Mining Company, Strawn, Tex.: Bituminous coal.
- American Excelsior Consolidated Mining Company, Goodyears Bar Creek, Cal.: Asbestos.
- American Institute of Mining Engineers, New York City: Transactions of the American Institute of Mining Engineers.
- American Kaolin Company, Chester, Pa.: Kaolin, for manufacture of earthenware, etc.
- American Mining Company, Chicago: Iron ores.
- American Mining Company, Gilpin County, Colo.: Gold ore.
- American and Nettie Mining Company, Ouray, Colo.: Gold ore.
- American Steel and Wire Company of New Jersey, New York City: Ores of iron and zinc.
- Anaconda Coal Mining Company, Belt, Mont.: Bituminous coal.
- Anamosa Quarries, Stone City, Iowa: Limestone.
- Andrews, Colonel A., San Francisco, Cal.: Facsimile of dome of pantheon of Paris, made of gold and silver.
- Angel Island Stone Company, Angel Island, Cal.: Sandstone.

- Angel's Mining Company, Cooke Mine, Calaveras County, Cal.: Gold quartz.
- Argillo Works, Carbon Cliff, Ill.: Fire clay, for manufacture of fire brick, tiles, etc.
- Arkansas Anthracite Coal Company, Montana, Ark.: Bituminous coal.
- Armstrong, Charles, Ouray, Colo.: Obsidian, occurring with vein material in Bachelor mine.
- Armstrong, D., Silver City, Nev.: Silver ore.
- Armstrong, Hurlbert & Sanders, Ouray, Colo.: Silver lead ore, value \$1,500 per ton.
- Armstrong, Wheeler, Rome, N. Y.: Clay for manufacture of brick, accompanied by bricklet.
- Arroyo Grande Stone Company, Arroyo Grande, Cal.: Granite.
- Ashland Coal, Iron and Railway Company, Ashland, Ky.: Bituminous coal.
- Ashley Falls Marble Company, Ashley Falls, Mass.: Marble.
- Assyrian Gilsonite Company, Salt Lake City, Utah: Gilsonite.
- Atlas Mining Company, Prosperity, Mo.: Zinc and lead ore, sphalerite, galena, greenockite, concentrates, and tailings. Concentrates 60 per cent zinc.
- Auld & Conger, Cleveland, Ohio: Slate from Pennsylvania and Vermont.
- Avonmore Coal and Coke Company, Leechburg, Pa.: Bituminous coal, coke.
- A. Y. and Minnie Mining Company, Leadville, Colo.: Silver lead ore.
- Bacheller, F., Helvetia mine, San Diego County, Cal.: Gold quartz (rich).
- Bachelor Mining and Milling Company, Ouray, Colo.: Silver ore, showing minerals tetrahedrite and stephanite.
- Baggley, John, Two Bit, S. Dak.: Gold ore.
- Bailey, Charles A., Suncook, N. H.: Granite.
- Bailey, J. J., Cripple Creek, Colo.: Galena, showing bunch of native silver.
- Baird, Henry Carey & Co., Philadelphia, Pa.: Publication upon mining, metallurgy, mineralogy, and geology.
- Baker, Charles, Oro Belle mine, near Yuma, Ariz.: Copper ore.
- Baldwin, A. M., Huntington, W. Va.: Potters' clay, for manufacture of earthenware, etc.
- Ballard & Martin, Rawhide mine, Tuolumne County, Cal.: Gold quartz.
- Ballard, Martin & Nevills, Tuolumne County, Cal.: Model of round timbering, one method used in California.
- Bandera Flagstone Company, Redfield, Kans.: Flagstone.
- Bankers' Mining Company, Joplin, Mo.: Lead and zinc ores, galena, and sphalerite.
- Banning Company, Catalina Island, Cal.: Serpentine marble.
- Baptist Mining Company, Aurora, Mo.: Zinc ore, gray calamine.
- Barber Asphalt Paving Company, New York City: Asphaltum and its manufactured products.
- Barker, J. M., Willard, Utah: Iron ore.
- Barnard, E., Carlin, Nev.: Diatomaceous earth.
- Barney Marble Company, Swanton, Vt.: Marble panels and columns for mines and metallurgy façade.
- Barrett, J., Ormsby, Nev.: Copper ore.
- Bashford & Ferguson, Yavapai County, Ariz.: Gold ore.
- Bay State Seam Face Granite Company, Boston, Mass.: Granite.
- Beal, Prof. William, Murphy, N. C.: Asbestos.
- Beard, C., German Light mine, Placerville, Cal.: Gold quartz.
- Beardsley, George F., Tarshish, Cal.: Silver ore.
- Beasley Mining Company, Aurora, Mo.: Zinc ore, calamine.
- Beatty, John, Leete Island, Conn.: Granite.
- Beaver Hill Coal Company, San Francisco, Cal.: Bituminous coal.
- Beck, C. J., Lott mine, Fresno County, Cal.: Bismuthinite.
- Belcher Mining Company, Comstock, Nev.: Sulphurets.

- Belden Mining Company, Gilman, Colo.: Lead, sand carbonates of lead.
- Belding, Milo M., Gouverneur, N. Y.: Marble.
- Bell, T. J., Belmont, Nev.: Lead and silver ore.
- Benton, J., Benton mine, Mono County, Cal.: Auriferous galena.
- Berry, T. L., Santa Barbara, Cal.: Clay.
- Bertha Blake Mining Company, Battle Mountain, Eagle County, Colo.: Gray lead, carbonate sand.
- Bertha Zinc and Mineral Company, Bertha, Va.: Iron and zinc.
- Bertha Zinc Company, Pulaski, Va.: Zinc ore, calamite.
- Berwind, White Coal Company, Philadelphia, Pa.: Coal; collection from the company's mines.
- Bevis Rock Salt Company, Lyons, Kans.: Salt.
- Bickford & Bennett, Hillsboro, Sierra County, N. Mex.: Gold and copper ore.
- Binns, Charles Fergus, Trenton, N. J.: Clays available for economic uses, chiefly ceramic wares, from all parts of the United States.
- Birge, F. E., Yuba River, Cal.: Clay.
- Birney, T. L., Birney mine, Calaveras County, Cal.: Gold quartz.
- Bishop, Joseph, Ambrosia mine, San Benito County, Cal.: Stibnite.
- Bishop, T. F., Blue Lead mine, Butte County, Cal.: Auriferous gravel.
- Bismarck Mining Company, Georgetown, Colo.: Silver and lead ore.
- Bituminous Rock Company, Consolidated, Santa Cruz County, Cal.: Bituminous rock.
- Biwabik Mining Company, Biwabik, Minn.: Iron ore from Biwabik mines.
- Bixby, J. F., Tyson mine, Eldorado County, Cal.: Chromic iron ore.
- Black Metal Mining Company, Black Metal mine, Shasta County, Cal.: Silver ore.
- Black, Smith & Given, Chloride mine, Trinity County, Cal.: Gold quartz.
- Blake, P., Mount Gibbs mine, Mono County, Cal.: Silver ore.
- Blanc, A., Kern County, Cal.: Native antimony; also calcite from Placer County.
- Blanding, Louis, Tuolumne County, Cal.: Gold quartz (rich) from the mines of San Guiseppe and Pine Nut.
- Block, E., Honolulu mine, Big Bug Mining District, Ariz.: Gold, silver, and lead ore.
- Blossom, J. A., Battle Mountain, Nev.: Copper ore.
- Bogart Mining Company, Cripple Creek, Colo.: Gold ore, porphyry and quartz; value, \$20 per ton.
- Bogart, O. H., St. Lawrence mine, Placer County, Cal.: Mariposite.
- Bond, A. L., New Enterprise mine, Boulder County, Colo.: Ores of telluride.
- Bonelli, D., Lincoln County, Nev.: Rock salt.
- Booraem, R. E., New York (Department of Mines, United States Commission to Paris): Publications of the United States upon geology, mineralogy, mines, and metallurgy.
- Booth Brothers & Hurricane Isle Granite Company, New York City: Granite.
- Boston and Aurora Mining Company, Aurora, Mo.: Zinc ores, sphalerite, and crystallized calamine.
- Boston and Colorado Smelting Company, The, Argo, Colo.: Ores treated by these works.
- Boston and Montana Consolidated Copper and Silver Mining Company, Butte, Mont.: Copper and silver ores, mattes, by-products.
- Boston and Nevada Company, Lyon, Nev.: Copper ore.
- Boston Flint Paper Company, Hallowell, Me.: Garnets.
- Boston Little Circle Company, Boston, Mass.: Zinc ore, sphalerite, from 130-foot level.
- Boston Quicksilver Mining Company, Napa County, Cal.: Quicksilver ore, cinnabar.
- Bourne, Charles, Yavapai County, Ariz.: Gold ore.

- Bowen, Daniel, Mayer, Ariz.: Onyx.
- Boyd, John F., Standard Mine, Mono County, Cal.: Gold quartz.
- Braddock Land and Granite Company, Little Rock, Ark.: Granite.
- Brainerd, Shaler & Hall Quarry Company, Portland, Conn.: Brownstone.
- Brandon Italian Marble Company, Brandon, Vt.: Marble.
- Brandywine Granite Company, Wilmington, Del.: Granite.
- Braun, W., Lyon County, Nev.: Copper ore.
- Braverman, M., Drum Valley, Cal.: Graphite and other minerals.
- Brazanovich, M., Esmeralda County, Nev.: Copper ore.
- Brazil Block Coal Company, Brazil, Ind.: Bituminous coal.
- Briar Block Coal Company, Brazil, Ind.: Clay, for manufacture of brick, accompanied by bricklet.
- Brick and Pipe Company, The, Terre Haute, Ind.: Fire clays, for making fire brick, tiles, etc.
- Brindle Steer Mining Company, Empire City, Kans.: Zinc ore, sphalerite.
- Brown Bear Mining Company, Brown Bear mine, Trinity County, Cal.: Gold quartz.
- Brooks, W. H., Anne Arundel County, Md.: Potters' clay, for manufacture of earthenware, etc.
- Brown Dake Mining Company, Sterling mine, Hassayampa district, Ariz.: Gold, silver, and lead ore.
- Brown, George L., Lockwood mine, Calaveras County, Cal.: Gold quartz.
- Brown, E., San Luis Obispo County, Cal.: Clay.
- Brown, James B., Duncan mine, Mariposa County, Cal.: Gold quartz, clay.
- Brown T., Ventura, Cal.: Soapstone.
- Brownville Maine Slate Company, Worcester, Me.: Slate.
- Bullion, Beck & Champion Company, Bullion Beck mine, Eureka, Utah: Silver lead ore and hard carbonates of lead.
- Bullion Mining Company, Bullion mine, Tulare County, Cal.: Gold quartz, copper ore from Plumas County.
- Bullock, M. C., Manufacturing Company, Chicago: Diamond pointed prospecting core drills, diamond bits, cores, and boring tools.
- Bunko Mining Company, Cave Spring, Mo.: Zinc ore, sphalerite, and chert.
- Burke, J., Washoe County, Nev.: Mercury ore, cinnabar.
- Burns Mining Company, Cripple Creek, Colo.: Gold ore, phonolite with fluorite and quartz.
- Burrage, A. C., Santa Rita, N. Mex.: Cuprite crystals in talc.
- Button, W., Golconda, Nev.: Copper ore.
- Cagaloo Mining Company, Cagaloo mine, Riverside County, Cal.: Tin from furnace.
- Calaveras Consolidated Mining Company, Santa Cruz mine, Calaveras County, Cal.: Azurite.
- Calaveras Marble Company, Cave City, Cal.: Marble.
- Caledonia Mining Company, Caledonia mine, Fresno County, Cal.: Gold quartz.
- California Marble and Building Stone Company, Colton, Cal.: Aragonite.
- California commission to Paris Exposition, San Francisco, Cal.: Collective exhibit of ores and minerals. Contributors:
- Adams, W. J., jr., Felix mine, Azuzo, Los Angeles County: Fluorite.
- Aldrich, H. A., Glenbrook, Lake County: Iron ore.
- Amargosa Mining Company, Clarks Fork, Inyo County: Gypsum crystal.
- Arents, A., Fresno mine, Fresno County: Magnetite and limonite.
- Auburn, Bank of, Auburn, Placer County: Marble.
- Bartlett, W. P., Livermore, Alameda County: Hydromagnesite.
- Bartlett, W. T., Snowflake mine, Napa County: Magnesite.
- Bonanzo Mining Company, Tuolumne County: Slate.
- Brian, J. W., San Jacinto quarry, San Diego County: Limestone.

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

- Burke, Morris, Half Dollar mine, San Diego County: Lepidolite.
Bush, Mrs. A. E., Fresno County: Andalusite and selenite.
Cactus Mining Company, Cactus mine, Inyo County: Calcites.
Cain, J., Santa Rosa Island, Santa Barbara County: Gypsum crystal.
California Paris Exposition commission: Mineral oils from different mines.
Calistoga Mining Company, Napa County: Clay.
Carbondale Mining Company, Amador County: Clay.
Cerro Gordo County, Ygnacio mine, Inyo County: Caledonite.
Chalmers, Lewis, Alpine County: Enargite.
Choynski, T. N., Folsom, Sacramento County: Quartz.
Clark, L., Copper World mine, San Bernardino County: Chrysocolla.
Coleman, W. T., Death Valley, San Bernardino County: Pandermite.
Copeland, W. J., Mount Shasta mine, Shasta County: Quartz crystals.
Copperopolis Mining Company, Calaveras County: Cuprite and malachite.
Coso Lime Company, Coso mine, Inyo County: Calcites.
Croissant, A. T., Lincoln, Placer County: Clay.
Davis & Cowell, Davis quarry, Santa Cruz County: Limestone.
Diadem Mining Company, Plumas County: Gold quartz.
Dickenson, T., Eureka mine, Humboldt County: Graphite.
Donnelly, J. W., Eber Flat, Tulare County: Epidote.
Douglas, J., Douglasville, Tuolumne County: Chalcedony.
Drew, W. F., Alta mine, Placer County: Cobaltite.
Dyer, George, Red Hill mine, Mariposa County: Malachite, bornite.
Ellis, J., Ellis ranch, Santa Clara County: Limestone.
English, George L., Reed ranch, Marion County: Lawsonite.
Fair, James G., Morgan mine, Calaveras County: Aragonite.
Field, J. D., Limestone quarry, Tulare County: Limestone.
Finell, H. T., Willots, Mendocino County: Glaucophane.
Franconia, L., San Diego mine, San Diego County: Chalcocite.
Frazer Bros., Riverside quarry, Riverside County: Cement rock.
Frost, L. L., Hayden, Lassen County: Mesolite.
Gale, Mrs. S. A., Argus Mountain, Inyo County: Calcite.
Glenbrook Mining Company, Lake County: Micaceous hematite.
Goff, H. S., Arch Beach, Orange County: Fuchsite.
Goodrich, C. F., Del Norte County: Magnetite and limonite.
Grant Mining Company, Grant Gypsum mine, Orange County: Dolomite.
Grower, H., Big Pine, Inyo County: Bismutite.
Goucher, J., Berkeley, Alameda County: Vivianite.
Hazard, George W., Los Angeles quarry, Los Angeles County: Limestone.
Hearn, Dr. F. G., Yreka, Siskiyou County: Arenaceous limestone.
Heffernan, H. K., Carga Muchacha, San Diego County: Cyanite.
Hendrickson, A., Hendrickson quarry, Kern County: Limestone.
Heslewood, J. A., Tehama, Tehama County: Pectolite.
Hidalgo Mining Company, Inyo County: Argentiferous galena.
Hill, A., Hill's quarry, Monterey County: Limestone.
Hill, M., Mammoth mine, Mono County: Barite.
Hills, H. S., Vanderbilt, San Bernardino County: Feldspar.
Hirsh, D., Hirsh mine, Inyo County: Silver ore.
Hixon, J. W., Bullion mine, San Diego County: Chrysocolla and azurite.
Holmes, H. T., Company, Lynn's quarry, San Bernardino County: Limestone.
Hooper, Edward, Reynolds mine, Fresno County: Tantalite and columbite.
Hughes, D. F., South Fork mine, Placer County: Calcites.
Hughes, H., Deer Creek, Tulare County: Moss agate.

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

- Hullford, E. W., Placerville, Eldorado County: Quartz crystals, pyrite.
 Ibex Mining Company, Inyo County: Silver ore.
 Ireland, W. J., Murphy's cave, Calaveras County: Stalactites.
 I. X. L. Mining Company, Alpine County: Silver ore.
 Jerney, J. M., Green Mountain mine, Fresno County: Molybdenite.
 Jacoby, H., Jacoby Creek, Humboldt County: Limestone.
 Jolon Mining Company, Monterey County: Clay.
 Jones, D., Mount Raymond, Fresno County: Limestone.
 Kahn, Charles, Cadmus mine, Nevada County: Gold quartz.
 Katz, M. D., Akar's quarry, San Bernardino County: Limestone.
 Keeney, G. D., Soledad Canyon, Los Angeles County: Zeolite.
 Kelsey, P. F., Kelsey mine, Los Angeles County: Erythrite.
 Kennedy Mining Company, Kennedy mine, Amador County: Foot wall, 1,250 to 1,600 foot level.
 Keystone Mining Company, Keystone mine, Amador County: Foot wall.
 Kimble, George W., Colomo mine, Eldorado County: Magnetite, limonite.
 King, M., Yolo mine, Yolo County: Limonite.
 Knight, George, Pit River, Modoc County: Calcite.
 Knox, R. F., Manhattan quicksilver mine, Napa County: Chalcedony.
 Marble Lime Kiln Company, Swartout Canyon, San Bernardino County: Limestone.
 Mason, W. B., Crescent City Beach, Del Norte County: Beach pebbles.
 Mason, W. Q., Bald Point, Calaveras County: Almandite (garnet).
 Mathyas, B., Buckmountain Creek, Humboldt County: Lignite.
 Maxwell, J., Turquoise mine, San Bernardino County: Turquoise, cuproscheelite.
 Maxwell, James M., New Idria mine, Fresno County: Cinnabar.
 Mayer, H. H., Lake mine, Lake County: Hyalite.
 McGowan, F., Eureka, Humboldt County: Rutile (in granite).
 McMillan, F., Shasta County: Limonite, melanterite.
 Mendenhall, A., Mendenhall mine, Alameda County: Chromic iron ore.
 Mercer, W. J., Mercer's cave, Murphy, Calaveras County: Stalactite.
 Merriman, Dr. A. F., Big Lagoon beach, Humboldt County: Beach pebbles.
 Moore, N., Moore's ranch, Santa Barbara County: Limestone.
 Mount Shasta Mining Company, Mount Shasta: Gold quartz, \$300 per ton.
 Nellis, J. W., Mount Diablo, Contra Costa County: Barite.
 Nelson, J., Nelson Creek, Monterey County: Jasper (variegated).
 Nichols, George, Calaveras cave, Calaveras County: Stalactite.
 Ogden, A., Union mine, Calaveras County: Chalcopyrite, from 500-foot level.
 O'Gorman, J. T., Callaghan's ranch, Siskiyou County—Barite.
 Parker, D. W. C., Modoc mine, Inyo County—Anglesite.
 Payne, P., St. Helena, Napa County, Cal.—Chrysolite (in serpentine).
 Perry, Mrs. J. W. S., Calico—Celestite, thenardite.
 Pope, O. C., Chico mine, Placer County—Millerite.
 Porrie, M., Porrie's quarry, Kern County—Limestone.
 Powers, H., Mayflower mine, Nevada County—Molybdenite.
 Pritchard, J. A., Wyoming mine, Inyo County—Quartz crystal.
 Randol, J. B., New Almaden mine, Santa Clara County—Calcite.
 Redfern, J. M., Barstow, San Bernardino County—Pyrolusite (calcite).
 Rich Gulch Mining Company, Plumas County—Gold quartz (rich).
 Rockland Lime Quarry Company, Monterey County—Limestone, calcites.
 Root, William C., Mountain Meadow, Tuolumne County—Copper ore.
 Sanders, Edward, Delta, Shasta County—Molybdenite in granite.
 San Francisco Mining Company, Mariposa County—Gold quartz (with pyrite).
 Santa Barbara Mining Company, Santa Barbara County—Ocher (burnt).

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

Satellite Mining Company, Inyo County—Copper ore.

Sem, Sam, Stuckslager mine, Eldorado County—Roscoelite.

Sheldon, E. F., Jamestown, Tuolumne County—Albite.

Sheppard, L., Sheppard's canyon, Inyo County—Iron ore.

Shimmin, E. R., Willets, Mendocino County—Garnets.

Sickler, H. O., Julian quarry, San Diego County—Limestone.

Silver, Lowry, Copper World mine, San Bernardino County—Chrysocolla.

Smith, A., Three River quarry, Tulare County—Limestone.

Smith, B. W., Specimen mine, Kern County—Calcites.

Smith, E., Carpenter's ranch, San Luis Obispo County—Limestone.

Smith, O. A., San Bernardino County—Calcites (Iceland spar, pyrite).

Sprague, George E., Mount Hoffman, Mariposa County—Epidote.

Stewart, Charles, Tehachapi Summit, Kern County—Semi opal.

Stone, G. F., Forest Hill Divide, Placer County—Serpentine.

Suhren, George H., Suisun, Solano County—Agate.

Thayer, B. B., Guadalupe quicksilver mine, Santa Clara County—Dolomite.

Theisen, John, Consumers' mine, Eldorado County—Rubescite.

Thomas, W. P., Thomas mine, Mendocino County—Lignite.

Thorn, J. N., Lost mine, San Diego County—Copper ore.

Tregidgo, Al., Hudson Bay mine, Nevada County—Gold quartz (rich).

Tres Pinos Lime Company, San Benito County—Limestone, magnetite.

Turnbow, F. H., Stuckslager mine, Eldorado County—Roscoelite.

Turner, O., Turner's quarry, San Diego County—Limestone.

Union Mining Company, Calaveras County—Chalcopryrite.

Ward, W. E., Enterprise mine, Plumas County—Chalcocite.

Williams, J., Kennet quarry, Shasta County—Limestone.

Woodworth, J. W., Rose mine, San Bernardino County—Hematite (auriferous).

Yates, L. G., Santa Barbara County—Pectolite.

California Paris Commission, San Francisco, Cal.: Models, gold quartz mill, mine timbering, underground mining, hydraulic sluicing, nuggets, and dust.

California Quicksilver Mining Company, Yolo County, Cal.: Quicksilver ore.

California State Mining Bureau, San Francisco, Cal.: Reports and colored charts on mineral production of the State.

Calliope Mining and Milling Company, Ouray, Colo.: Silver lead ore.

Calumet and Contact Company, Contact, Nev.: Copper matte.

Calumet and Hecla Company, Calumet, Mich.: Native copper, copper ores.

Campbell, C. P., Boomerang mine, San Bernardino County, Cal.: Gold quartz.

Campbell, L. H., Gaffney, S. C.: Monazite sand.

Campion, John F., Leadville, Colo.: Native gold, crystallized, and leaf, from Breckenridge and Leadville collection; valued at \$35,000.

Capital City Brick Company, Topeka, Kans.: Shale, for manufacture of paving and vitrified brick.

Carborundum Company, Niagara Falls, N. Y.: Carborundum crystals.

Carpenter & Brother, Kings Mountain, N. C.: Tin ore.

Carpenter, A. V., Contact, Nev.: Copper ore.

Carpenter, Coles A., Sea Cliff, N. Y.: Stoneware clay, for the manufacture of stoneware, etc.

Carrara Marble Company, Carrara Marble Quarry, Amador County, Cal.: Marble.

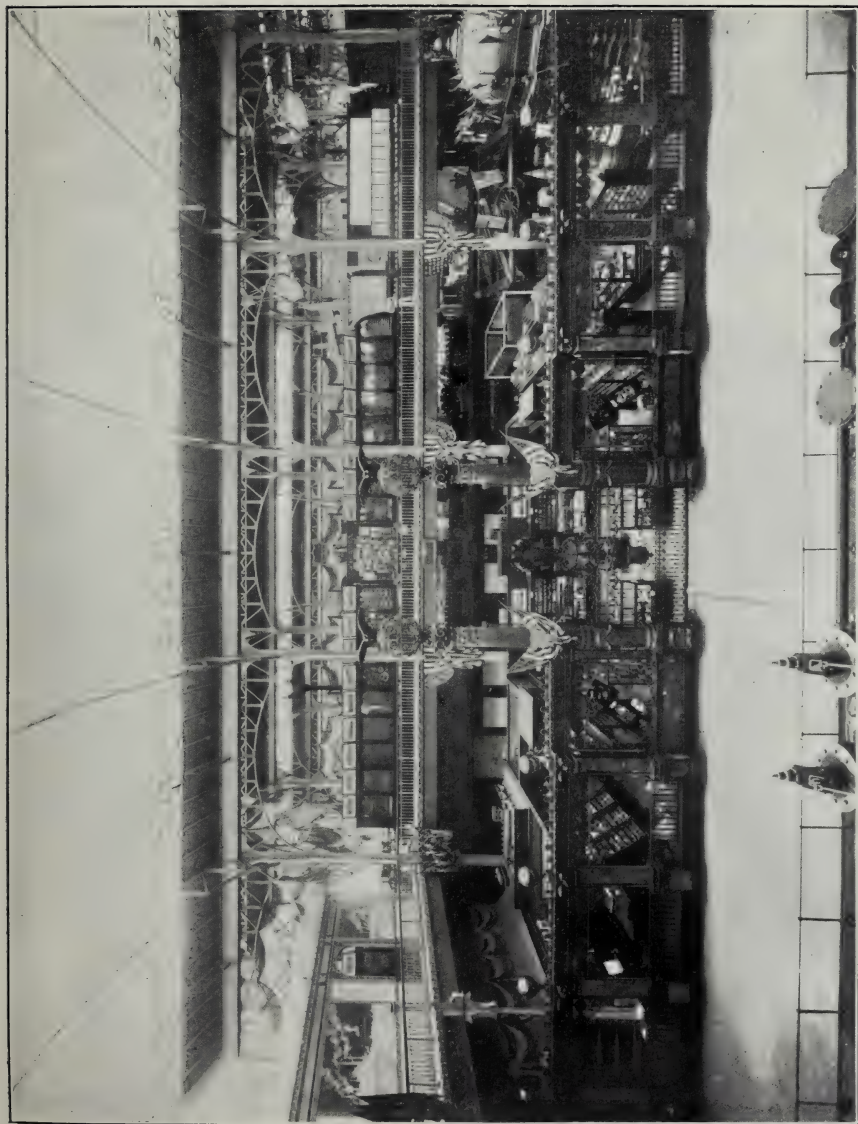
Carthage Marble and White Lime Company, St. Louis, Mo.: Limestone.

Casarallo, J., Garibaldi mine, Mono County, Cal.: Argentiferous galena.

Cashin, William J., Cashin, Colo.: Copper ore.

Castrer, Curran & Bullitt, Philadelphia, Pa.: Coal collection of the Pocahontas mines, western Virginia.

- Cayuga Pressed Brick Company, Cayuga, Ind.: Clay for making brick, accompanied by bricklet.
- Centennial Eureka Mining Company, Eureka, Utah: Gold, silver, and copper, with rare arsenical minerals associated.
- Centerville Block Coal Company, Centerville, Iowa: Bituminous coal.
- Central Coal and Coke Company, Kansas City, Mo.: Bituminous coal, coke.
- Central Jellico Coal Company, Pleasant View, Ky.: Bituminous coal.
- Central Lead Company, Flat River, Mo.: Lead ore, galena.
- Central Phosphate Company, Beaufort, S. C.: Phosphate rock.
- Central Railroad of New Jersey, New York City: Anthracite coal.
- Cerrillos Coal and Railroad Company, Cerrillos, N. Mex.: Bituminous coal.
- Cerro Gordo Company, Ygnacio mine, Inyo County, Cal.: Linarite.
- Chadbourne & Long, Old mines, Washington County, Mo.: Lead ore, galena, and barytes.
- Chainman Mining Company, White Pine County, Nev.: Gold ore.
- Chapman Coal Company, Jackson, Ohio: Bituminous coal.
- Champion Company, Iron Beacon, Mich.: Iron ore, weighing 1,600 pounds.
- Chapel Hill Mining Company, Cherokee County, N. C.: Iron ore.
- Chapin, W. C., Furnace Creek, Cal.; Ulexite and gypsum.
- Chase, Capt. George W., Rush, Ark.: Zinc ore, sphalerite with smithsonite.
- Chatelle, W. B., Galena, Kans.: Zinc ore, crystallized sphalerite.
- Chauvin, A. T., Chauvin, Cal.: Gold quartz.
- Cherokee and Pittsburg Coal Company, Pittsburg, Kans.: Bituminous coal.
- Cherry Valley Iron Company, Leetonia, Ohio: Bituminous coal.
- Chestatee Pyrites Company, Lumpkin County, Ga.: Iron pyrite.
- Chiatovich, J., Tule Canyon, Nev.: Silver lead, horn silver, and iron ore.
- Chiatowitch, John, Beveridge mine, Inyo County, Cal.: Gold quartz.
- Chicago University, Chicago: Collection of minerals included in Group III of Dana's classification, collected by J. P. Iddings.
- Chicago, Wilmington and Vermilion Coal Company, Braidwood, Ill.: Bituminous coal.
- Chickamauga Coal and Coke Company, Chickamauga, Ga.: Bituminous coal, coke.
- Chisler, G., Jumbo, Nev.: Gold and silver.
- Choctaw, Oklahoma and Gulf Railway Company, Hartshorn, Ind. T.: Bituminous coal.
- Christy Fire Clay Company, The, St. Louis, Mo.: Fire clay, for manufacture of fire brick, tiles, etc.
- Cincinnati Belle Mining Company, Cincinnati Belle mine, San Diego County, Cal.: Gold quartz (rich).
- Cinnabar King Mining Company, Healdsburg, Sonoma County, Cal.: Mercury ore, cinnabar.
- City Improvement Company, San Francisco, Cal.: Bituminous rock and asphaltum.
- Clarke, F. G., Blue Stone Company, Oxford, N. Y.: Bluestone.
- Clark, N., & Son, Carbondale mine, Amador County, Cal.: Clay (fire).
- Clark, W. A., Gallup, N. Mex.: Bituminous coal.
- Clerk de Landresse, H., Yosemite Queen mine, Fresno County, Cal.: Silver ore.
- Cleveland Cliffs Mining Company, Ishpeming, Mich.: Iron ore from Cleveland Cliffs mine.
- Cleveland Mining Company, Cleveland mine, San Diego County, Cal.: Gold quartz.
- Cleveland Stone Company, Cleveland, Ohio: Sandstone.
- Clinton Mining and Milling Company, Crisman, Colo.: Gold ore, with the association of roscoelite.
- Clippert & Spaulding, Lansing, Mich.: Clay, for manufacture of brick, accompanied by bricklet.



H-1. FRONT VIEW OF PART OF GROUND FLOOR AND ALL OF GALLERY FLOOR, DEPARTMENT OF MINING AND METALLURGY,
FROM ELEVATION ON OPPOSITE SPACE.



H-2. MAIN ENTRANCE, SHOWING CLOSED PORTCULLIS, DEPARTMENT OF MINING AND METALLURGY.

- Coal Bluff Mining Company, Terre Haute, Ind.: Bituminous coal.
- Coal Creek Coal Company, Knoxville, Tenn.: Bituminous coal.
- Coal Ridge Coal and Coke Company, Pomeroy, Ohio: Bituminous coal, coke.
- Cock Robin Mining Company, Joplin, Mo.: Zinc and lead ore, sphalerite, and galena.
- Colcord, R. K., Vivian mine, Nev.: Gold and silver ore.
- Collins, R. M., Lewis, Cal.: Soapstone (fire brick).
- Colman, N. J., Hilton Mine, Mariposa County, Cal.: Gold quartz from 900-foot level.
- Colorado Central Mining Company, Georgetown, Colo.: Silver and lead ore.
- Colorado College, Colorado Springs, Colo.: Minerals in the sulphide, selenide, telluride, arsenide, and antimonide group, by R. M. Bagg, jr.
- Colorado Fuel and Iron Company, Denver, Colo.: Coal, coke; representing 30 iron and coal mines and coking plants operated in Wyoming, Colorado, and New Mexico.
- Colorado Scientific Society, Denver, Colo.: Free gold ore from the Smuggler Union Mine, Telluride, Colo.: valued at \$600. Value per ton, \$86,000.
- Columbia Marble Quarry Company, Columbia Marble Quarries, Tuolumne County, Cal.: Marble.
- Columbia Mining Company, Marion, Ky.: Lead ore, galena, and fluor spar.
- Columbian Marble Quarrying Company, Rutland, Vt.: Square column of La Joya marble in façade.
- Columbian Mining Company, Silverton, Colo.: Silver copper ore.
- Columbus and Hocking Coal and Iron Company, Columbus, Ohio: Bituminous coal.
- Comet Coal Company, Dayton, Ohio: Bituminous coal.
- Commodore Mining Company, Creede, Colo.: Silver ore.
- Commonwealth Mining and Milling Company, Pearce, Ariz.: Gold and silver ore, with free gold and cerargyrite.
- Compere, C. V., Washington Mine, Calaveras County, Cal.: Gold quartz.
- Concrete Gold Mining Company, Gilpin County, Colo.: Gold and silver ore.
- Cone, H., Blackman Mine, Nevada County, Cal.: Gold quartz.
- Congress Gold Company, Congress Mine, Congress, Ariz.: Gold ore.
- Conn, Fred., Saline Valley, Cal.: Tincal (native borax).
- Conrad Hill Mining Company, Davidson County, N. C.: Copper ore.
- Conroy, B., Redding, Cal.: Limonite (botryoidal).
- Consolidated Bituminous Rock Company, Santa Cruz County, Cal.: Bituminous rock.
- Consolidated Coal Company, Baltimore, Md.: Bituminous coal.
- Consolidated Coal Company, St. Louis, Mo.: Bituminous coal.
- Consolidated Stanley Mining Company, Idaho Springs, Colo.: Gold, silver, and copper ore.
- Consolidated Virginia Mining Company, Virginia City, Nev.: Sulphurets.
- Continental Coal Company, Mayersdale, Pa.: Bituminous coal.
- Contracting Company, Clear Creek Station, Cal.: Sandstone.
- Cook, S. E., Buffalo City, Ark.: Zinc blende with smithsonite, dolomite, and magnesian limestone, from Alberta Mine, Marion County.
- Cook Mining and Milling Company, Central City, Colo.: Gold ore.
- Cooper Hollow Mining Company, Galena, Kans.: Zinc ore, breccia of sphalerite and chert.
- Copperopolis Mine, Castle Creek, Ariz.: Gold and copper ore.
- Copper Queen Consolidated Mining Company, Bisbee, Ariz.; Copper ores, showing malachite, azurite, cuprite, and chrysocolla.
- Copper Union Creek Company, Copper Union Creek, California: Copper ore.
- Cornell University, Ithaca, N. Y.: Minerals of Groups III, IV, VII, and VIII, Dana's Classification, collected by A. C. Gill.
- Cornelly, J. B., Tombstone Mine, Inyo County, Cal.: Gold quartz.
- Cornetti, G. B., Tombstone Mine, Inyo County, Cal.: Gold quartz.
- Cornwall Mining Company, Galena, Kans.: Lead-ore cerussite.

- Corona Coal and Coke Company, Corona, Ala.: Bituminous coal, coke.
- Corrigan, McKinney & Co., Cleveland, Ohio: Iron ores.
- Cowles, Calvin J., Wilkesboro, N. C.: Potter's clay, for manufacture of earthenware, etc.
- Craig, John J., Company, Knoxville, Tenn.: Marble.
- Crowell, J. P., Alta Antimony Mine, San Benito County, Cal.: Stibnite.
- Crown King Mining Company, Yavapai County, Ariz.: Gold ore.
- Cruikshank, A. B., Mary Ellen Mine, Tuolumne County, Cal.: Gold quartz.
- Crown Point Mining Company, Comstock, Nev.: Sulphurets.
- Cumnock Mining Company, Cumnock, N. C.: Bituminous coal.
- Curtis, J. G., Pentz, Cal.: Chronic iron ore, limestone.
- Curtis, S. W., Sonoma, Cal.: Clay.
- Cutter, W. H., Woodbridge, N. J.: Potter's clay, for manufacture of earthenware, etc.
- Daggett, A., San Bernardino County, Cal.: Silver ore, chalcopyrite, calamine, and smithsonite.
- Daggett, J., Juniper Mine, Lassen County, Cal.: Gold quartz (with free gold).
- Damon Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, fluorite, and quartz.
- Danche, J., Boss, Nev.: Lead and silver ore.
- Danville Brick and Tile Company, Danville, Ill.: Clay for making brick, accompanied by bricklet.
- Daunet, J., Death Valley, Cal.: Borate of lime.
- Davison & Kennedy, Lottie Mine, Inyo County, Cal.: Cervantite (oxide antimony).
- Davidson, G. A., Utica Mine, Ward, Colo.: Chalcopyrite and bornite, carrying gold.
- Davis, J. Z., Sacramento, Cal.: Collection of minerals.
- Day, Dr. David T., Washington, D. C.: Transparencies showing scenes in mining regions.
- Deaken & Taylor, Old Spanish Mine, Shasta County, Cal.: Gold quartz, \$75 per ton.
- Deaken, F., Evening Star Mine, Shasta County, Cal.: Gold quartz, \$800 per ton.
- De Corse, S., Marble Canyon Mine, near Yuma, Ariz.: Marble.
- Deep Creek Mining Company, Lander County, Nev.: Antimony.
- De Goha, J. W., Grass Valley, Cal.: Clay.
- Deidesheimer, P., Young America Mine, Sierra County, Cal.: Gold quartz.
- Deitrick, T. M., Lorraine, Va.: Potter's clay for manufacture of earthenware, etc.
- De la Mar's Mining Company, Mercur, Utah: Exhibit of the methods of working gold ores.
- Delano Mining Company, Delano Mine, Tulare County, Cal.: Silver ore.
- Delaware and Hudson Company, New York: Anthracite coal.
- Delaware and Lackawanna Railroad Company, New York: Anthracite coal.
- Dennemora Mining Company, Browns Summit, N. C.: Iron ore.
- Denver Marble and Onyx Company, Denver, Colo.: Marble.
- Dern, John, Mercur, Utah: Gold ore, showing cinnabar.
- Derby, C. C., Mirabel Mine, Lake County, Cal.: Cinnabar, stibnite from San Benito County, and epsomite from Santa Clara County.
- Deseret Museum, The, Salt Lake City, Utah: Selenite crystals.
- Detroit and Deadwood Company, Deadwood, S. Dak.: Native copper.
- Detroit Copper Mining Company, Morenci, Ariz.: Copper ores, cuprite, chalcotrichite, arborescent and bright native copper, azurite.
- Detroit Mining Company, Joplin, Mo.: Zinc ore, sphalerite from "soft ground."
- Devine, J. E., Volcano Wells Mine, near Yuma, Ariz.: Alum.
- Devling, Charles, Boulder, Colo.: Silver ore.
- Dewdrop Mining and Milling Company, Ni Wot Mine, Ward, Colo.: Gold ore, iron and copper ore.

- Dew Drop Mining Company, Oronogo, Mo.: Zinc ore, breccia of sphalerite, chert, and limestone.
- Dickey, W. S., Manufacturing Company, Deepwater, Mo.: Fire clays for making fire brick, tiles, etc.
- Dickinson Fire Brick Works, Dickinson, N. Dak.: Fire clays for making fire brick, tiles, etc.
- Dier, George, Draper Mine, Tuolumne County, Cal.: Gold quartz.
- Dixie Mining and Smelting Company, Dixie Mine, St. George, Utah: Copper and iron ores.
- Doe Run Mining Company, Flat River, Mo.: Lead ores, galena, diamond drill cores showing structure of the deposit.
- Dooley, W. P., Lincoln County, Nev.: Copper ore.
- Doolittle, J., Providence Mine, Tuolumne County, Cal.: Gold quartz with pyrite.
- Doran, A. J., Accidental Mine, Ariz.: Gold, silver, and lead ore.
- Dorick Mining Company, Georgetown, Colo: Gold and lead ore.
- Dorset Mountain Marble Company, Rutland, Vt.: Marble.
- Douglass, W., Silver Star Mine, Nev.: Gold ore.
- Drake Company, St. Paul, Minn.: Petrified wood found near Holbrook, Ariz., cut for ornamental purposes, table tops; granite, quartzite.
- Dresser, S. R., Bradford, Pa.: Packers for oil and gas wells; couplings for threadless pipe; insulation to prevent electrolysis of pipes; clamps for stopping leaks at couplings.
- Ducktown Mining Company, Ducktown, Tenn.: Copper ore.
- Dunlap Mining Company, Flat Creek, Washington County, Mo.: Lead ore, galena.
- Dunn, L. F., Humboldt County, Nev.: Silver ore.
- Durkee, J. H., Coal Company, Weir, Kans.: Bituminous coal.
- Dutton, A. J., Ouray, Colo.: Gold, silver, and copper ore, showing the mineral tetrahedrite.
- Dwight Mining Company, Galena, Kans.: Zinc ore, sphalerite on chert.
- Dwight, Prof. William B., Vassar College, Poughkeepsie, N. Y.: Petrotome in operation.
- Eads, Mixter & Heald Zinc Company, Mossy Creek, Tenn.: Zinc ore, sphalerite, smithsonite, calamine.
- Eagle Mining Company, Loudoun County, Va.: Iron ore.
- Eagle Mining Company, Salem, Ky.: Lead and zinc ores, galena, sphalerite, and fluorite.
- Edgar, C. S., Metuchen, N. J.: Ball clay, accompanied by example in bricklet form.
- Edwards, A. W., Mark Twain mine, Lynx Creek, Ariz.: Gold and silver ore.
- Edwards, M. A., Campo Seco, Cal.: Granite.
- Eggers & Co., Eagle mine, Nevada: Gold ore.
- Eggers & Hunter, New Orleans mine, Nevada: Copper ore.
- Eicher, J. C., Morning Star mine, Butte County, Cal.: Barite with gold and silver.
- Ekman, A., Butte County, Cal.: Gypsum, calcite with sulphides.
- Eleventh Hour Mining Company, Prosperity, Mo.: Zinc ore, sphalerite.
- Elkton Mining Company, Cripplecreek, Colo.: Collection of gold ore and accompanying minerals.
- Elsinore Coal and Clay Company, Elsinore, Cal.: Bituminous coal.
- Empire Iron and Steel Company, New York City: Iron ore from New Jersey and Virginia mines.
- Empire Mining Company, Empire mine, Nevada County, Cal.: Gold quartz, from 1,500-foot level.
- Empire Mining Company, Lynx Creek, Ariz.: Gold, silver, and copper ore.
- Empire State Mining and Milling Company, Wardner, Idaho: Set of concentrates.
- Engels, H. A., Engels's mine, Plumas County, Cal.: Copper, malachite, chrysocolla, cuprite, chalcopyrite.

- English, R. W., Lumber Company, English, Colo.: Lime rock of good quality.
- Ensign, O. A., Hoodlum mine, Castle Creek, Ariz.: Copper ore.
- Enterprise Mining Company, Rico, Colo.: Gold and silver ore.
- Erie Railroad Company, New York City: Anthracite coal.
- Esperanza Mining Company, Esperanza mine, Calaveras County, Cal.: Azurite.
- Etta Mining Company, Etta, Ariz.: Gold-quartz ore.
- Etta Mining Company, Keystone, S. Dak.: Spodumene, for manufacture of porcelain and medicines.
- Eureka Consolidated Mining Company, Eureka, Nev.: Lead and silver ore.
- Eureka Hill Mining Company, Tintic district, Utah: Gold, silver, and copper ore, conchaleite and enargite.
- Eureka Mining Company, Eureka mine, Plumas County, Cal.: Gold quartz (sulphides of iron and lead).
- Eureka Slate Company, Eureka slate mine, El Dorado County, Cal.: Slate.
- Evans, L., Pardee mine, Lake County, Cal.: Chromic iron ore.
- Evans Marble Company, Baltimore, Md.: Marble from Tennessee.
- Ewing, Thomas, San Bernardino County, Cal.: Silver ore from Bonanza King and Bell McGillivray mines.
- Excelsior Brownstone Company, Ashland, Wis.: Sandstone.
- Excelsior Fire Brick Company, Ottawa, Ill.: Clay for making brick, accompanied by bricklet.
- Excelsior Slate Company, Delta, Pa.: Slate.
- Exploration Syndicate, The, New York City: Bituminous coal.
- Fairhaven Marble and Marbleized Slate Company, Fairhaven, Vt.: Slate.
- Fairhurst, G. W., Magnolia, Colo.; Gold ore, showing cleavage face of tellurium.
- Fairmont Coal and Iron Company, New Bethlehem, Pa.: Bituminous coal.
- Fairmount Consolidated Mining Company, Garfield, Nev.: Black metal.
- Fall Brook Coal Company, Corning, N. Y.: Bituminous coal.
- Falling Rock Cannel Coal Company, New York City: Bituminous coal.
- Faxon, John T., Sonora, Cal.: Soapstone.
- Ferguson Mining Company, York County, S. C.: Gold ore.
- Field Columbian Museum, Chicago: Crystals of the United States, illustrating crystallography.
- First National Kansas Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Fish, A., Gold Wreath mine, Inyo County, Cal.: Gold quartz.
- Fisk Mining and Milling Company, Blackhawk, Gilpin County, Colo.: Gold, silver, and copper ore.
- Fitch, A. B., Graphite Mine and Smelting Works, Magdalena, N. Mex.: Carbonate sands containing lead and silver.
- Flemington Coal and Coke Company, Flemington, W. Va.: Bituminous coal, coke.
- Florentine Marble Company, Beldens, Vt.: Marble.
- Fluorspar Company, The, St. Louis, Mo.: Fluorspar.
- Flynt, W. N., Granite Company, Monson, Mass.: Granite.
- Foley, James, Allisonia, Va.: Zinc and lead ore, steel blende, smithsonite, galena, and cerusite.
- Foote Mineral Company, 1317 Arch street, Philadelphia, Pa.: Collective exhibit of minerals occurring in the United States.
- Forney Mining Company, North Carolina: Iron ore.
- Fort Madison and Appanoose Stone Company, Fort Madison, Iowa: Dolomite.
- Fossich, F. L., Company, Sheffield, Ala.: Limestone.
- Foster, W. E., Blazing Star mines, Calaveras County, Cal.: Gold quartz.
- Francis Mining Company, Francis mine, San Bernardino County, Cal.: Gold quartz.
- Frank, J. W., Red Cap mine, Humboldt County, Cal.: Native copper.

- Franklin, Nelson, Wood mine, Central City, Colo.: Uranium ore, pitch blende.
- Free Coinage Mining Company, Cripplecreek, Colo.: Gold ore, porphyry and quartz, basalt, fluorite.
- Freedley, J. K., & Sons, Philadelphia, Pa.: Marble.
- Freeland Mining Company, Idaho Springs, Colo.: Gold, silver, copper, and lead ore.
- Freeport Granite Quarries, Freeport, Me.: Granite.
- Fremont Marble Company, Hartford, Conn.: Marble.
- French, J. W., Washington mine, Shasta County, Cal.: Gold quartz (telluride).
- French, T. J., Blue Jacket mine, Seven Devils Mountains, Idaho: Copper ore.
- Fresno Enterprise Company, Enterprise mine, Fresno County, Cal.: Gold quartz.
- Fricke, John H., Hillsboro, Sierra County, N. Mex.: Pyritic iron and zinc ore.
- Frick, H. C., Coke Company, Pittsburg, Pa.: Maps and charts, diagrams, and photographs of equipment. Coke collection.
- Friedigh, J. H., Hillsboro, Sierra County, N. Mex.: Gold ore.
- Frost, J. S., Kentucky mine, Mono County, Cal.: Chloride of silver.
- Fuller, L. H., Chicago: Lead ore, galena, from Dodgeville, Wis.
- Fultonham Brick Company, Fultonham, Ohio: Shale, for manufacture of paving and vitrified brick.
- Galena Queen Mining Company, Silverton, Colo.: Silver and lead ore.
- Gallup, H. H., Buffalo City, Ark.: Zinc ore blende from Lion Hill mines, Marion County, Ark.
- Gambetta Mining Company, Gambetta mine, San Bernardino County, Cal.: Silver ore.
- Gambetter Mining Company, Gambetter, Cal.: Gold quartz.
- Gardner, Dr., Bedford, Ind.: Kaolin, for manufacture of earthenware, etc.
- Gardner, J. I., Wren, Ariz.: Gold quartz.
- Garrison, J. F., New Year mine, Deep Creek, Utah: Copper ore.
- Gauley Mountain Coal Company, Amsted, W. Va.: Bituminous coal.
- Geddes & Seerie Stone Company, Denver, Colo.: Granite.
- Gee Whillekins Mining Company, Granby, Mo.: Zinc and lead ore, calamine and galena.
- Gehrmann, Charles, Stanley mine, Idaho Springs, Colo.: Gold, silver, and copper ore, showing bornite and chalcopyrite.
- Genesee Salt Company, Piffard, N. Y.: Salt.
- Genesee Valley Mining Company, Plumas County, Cal.: Copper ore.
- Genesee-Vanderbilt Mining Company, Guston, Colo.: Ore from Yankee Girl mine.
- Geological survey, Illinois State, Springfield, Ill.: Reports on geology of Illinois.
- Geological survey, Indiana State: Reports, etc., on geology of Indiana.
- Geological survey, Iowa State, Des Moines, Iowa: Geological photographs and measurements. Reports.
- Geological survey, Kansas State, Lawrence, Kans.: Reports upon geology, mining, metallurgy, and mineralogy.
- Geological survey, Kentucky State, Lexington, Ky.: Reports upon geology, mining metallurgy, and mineralogy.
- Geological survey, Maryland State: Geological reports, etc.
- Geological survey, Michigan State, Lansing, Mich.: Reports on geology, mining, metallurgy, and mineralogy.
- Geological survey, New Jersey: Reports and maps of geological formations.
- Geological survey, New York State, F. J. H. Merrill, director: Reports on salt, gypsum, clay, road materials, and mineral resources.
- Geological survey, North Carolina State, Chapel Hill, N. C.: Reports on geology, mining, metallurgy, and mineralogy.
- Geological Survey, U. S. A., Washington, D. C.: Reports on geology, mining, metallurgy, and mineralogy; educational series of rocks.

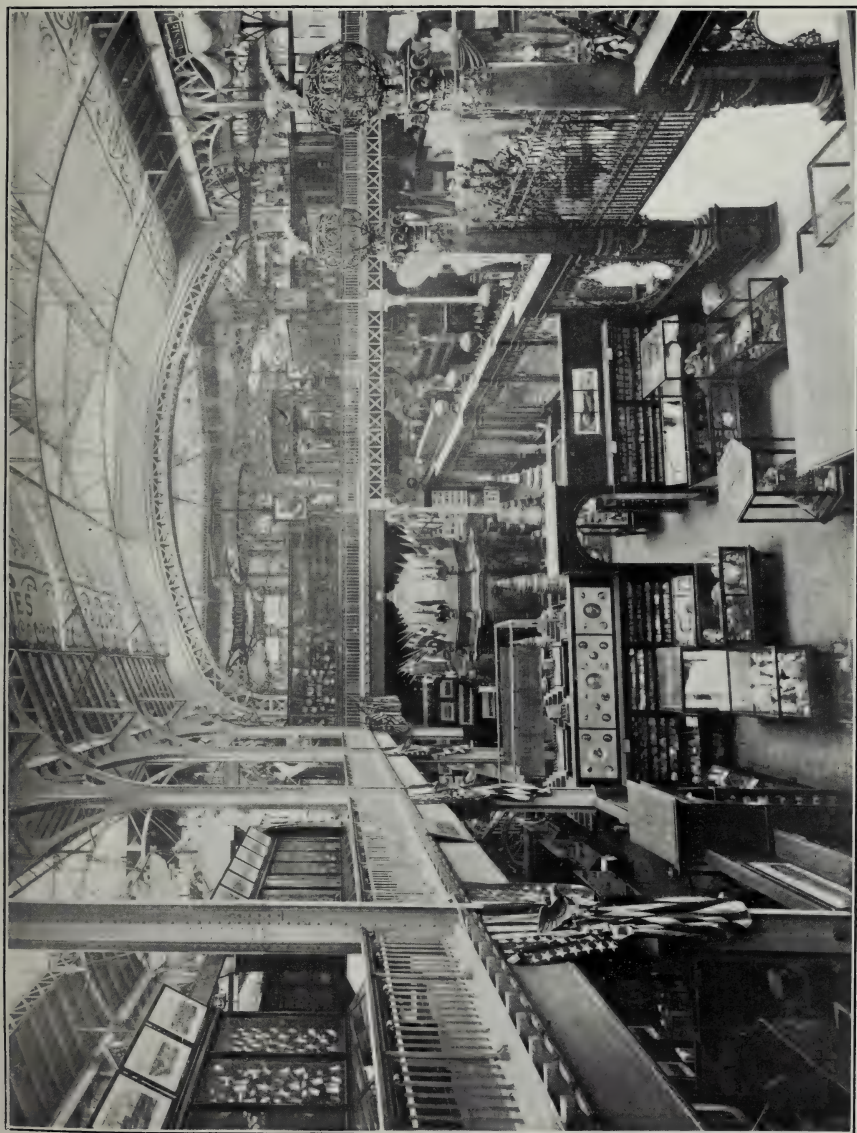
- Geological survey, West Virginia, Morgantown, W. Va.: Reports on geology, mining, metallurgy, and mineralogy.
- George, D. S. G., Tulare County, Cal.: Semiopal soapstone.
- Georgia Marble Company, Tate, Ga.: Marble.
- Get There Mining Company, Prosperity, Mo.: Zinc and lead ore, sphalerite, galena, chert, and greenockite.
- Gettys, L. A., Shelby, N. C.: Monazite sand.
- Gilbert, Charles, Cartersville, Mo.: Zinc ore, crystallized sphalerite.
- Gilberts, A. J., Zem Zem, Cal.: Onyx.
- Gilbreth Seam Face Granite Company, Boston, Mass.: Granite.
- Gilfillan Flagstone Company, Fort Scott, Kans.: Flagstone.
- Gillen Stone Company, Velp, Wis.: Oil-bearing sandstone.
- Gillis, Jim, Hackass Hill mine, Tuolumne County, Cal.: Gold quartz, rich in silver.
- Gilmore, J. T., Deadwood, S. Dak.: Silver-lead ore.
- Girard, L. N., Castella, Cal.: Clay.
- Gladding, McBean & Co., Lincoln, Cal.: Clay for making brick, accompanied by bricklet.
- Glasgow Western Exploration Company, Golconda, Nev.: Copper ore.
- Gold Coin Company, Hidden Treasure mine, Gilpin County, Colo.: Gold and silver ore.
- Gold Coin Company, Indiana mine, Gilpin County, Colo.: Gold, silver, and lead ore.
- Golden Gate Mining Company, Golden Gate mine, Tuolumne County, Cal.: Gold quartz.
- Golden Mines Company, Alabama mine, Mariposa County, Cal.: Gold quartz.
- Golden Wedge mine, Clear Creek County, Colo.: Silver and copper ore.
- Gold King Mining and Milling Company, Siverton, Colo.: Gold and silver ore.
- Gold King Mining Company, Cripple Creek, Colo.: Gold ore, phonolite and quartz, \$140 per ton; fluorite and quartz.
- Goodenough Mining Company, Cartersville, Mo.: Lead and galena.
- Gopher Gold Mining Company, McCabe, Ariz.: Gold ore.
- Gorman Mining Company, Nevadaville, Colo.: Uranium ore.
- Goss, John L., Stonington, Me.: Granite.
- Gouverneur Marble Company, Gouverneur, N. Y.: Marble.
- Grafton Quarry Company, St. Louis, Mo.: Dolomite.
- Granby Mining and Smelting Company, Granby, Mo.: Lead and zinc ores, galena, and sphalerite.
- Grand Central Mining Company, Mammoth, Utah: Gold and silver ore, showing free gold and cerargyrite.
- Grandelmeyer, J., Good Luck mine, Nevada: Lead and silver, copper and tungsten ore.
- Grand Prize Mining Company, Tuscarora, Nev.: Stephanite and ruby silver.
- Graphic Mines and Smelting Works, The, Magdalena, N. Mex.: Lead ores and fluxes necessary to smelt successfully all ore from this mine.
- Gray, George D., Empire mine, Sierra County, Cal.: Gold quartz.
- Great Eastern Quicksilver Mining Company, Guerneville, Sonoma County, Cal.: Mercury ore, cinnabar.
- Great Falls Fire Brick Company, Great Falls, Mont.: Flint clays.
- Great Western Quicksilver Mining Company, offices, San Francisco, Cal.: Mercury ore, cinnabar.
- Green, G., Padre mine, Los Angeles County, Cal.: Gold quartz.
- Green Mountain Mining Company, Green Mountain mine, Plumas County, Cal.: Gold quartz.
- Gregg, S. G., Snows Canyon, Nev.: Bromide of silver.
- Gregory & Co., Carson River, Nev.: Copper ore.

- Grier, T. J., Lead, S. Dak.: Gold quartz taken from each level of the Homestake mine.
- Griffith, D., Griffith quarry, Placer County, Cal.: Granite.
- Griswold, M., White Mountain mine, Mono County, Cal.: Melanterite.
- Grizzly Bear Mining Company, Ouray, Colo.: Silver ore.
- Groezeinger, W., Esmeralda County, Nev.: Coal.
- Guilfoyle, P., Poorman, Nev.: Lead and silver ore.
- Gunnell Mining Company, Central City, Colo.: Gold ore.
- Gurley Investment Company, Montrose County, Colo.: Copper ore.
- Gwin Development Company, Gwin Spring mine, Calaveras County, Cal.: Gold quartz.
- Haile Mining Company, Lancaster County, S. C.: Gold concentrates.
- Haines, J. M., Boise, Idaho: Copper ore.
- Hall, F. S., Ojai Valley, California: Gypsum.
- Hall, J. R., Cherokee mine, Tuolumne County, Cal.: Gold quartz (rich).
- Halstead Brothers, Plumas County, Cal.: Gold quartz (rich).
- Hanchet, L., Lamartine mine, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Hancock Mining Company, Silverton, Colo.: Silver and lead ore.
- Hanks, Mrs. W., Contact, Nev.: Copper ore.
- Hardwicke, James K., Madison County, N. C.: Kaolin, for manufacture of earthenware, etc.
- Harmon & McIlroy, Cartersville, Mo.: Zinc ore, sphalerite with chert.
- Harris Clay Company, Dillsboro, N. C.: Kaolin, for manufacture of earthenware, etc.
- Hart, J. W., Crystal mine, Shasta County, Cal.: Gold quartz.
- Hart, R. G., California Quicksilver mine, Yolo County, Cal.: Quicksilver ore.
- Hartke, John J., Elkridge, Md.: Clays for the manufacture of brick, accompanied by bricklet.
- Hartley, H. H., Excelsior mine, Meadow Lake, Cal.: Gold quartz.
- Hartman, C. T., Birmingham, Ala.: Clay for the manufacture of brick, accompanied by bricklet.
- Hatch Hill Bed Slate Works, Whitehall, N. Y.: Slate.
- Hatch, R. S., Tacna mine, near Yuma, Ariz.: Mica.
- Hathenbruck, F. W. C., Provo City, Utah: Slate.
- Havens, H. B., & Co., Lone Star mine, Calaveras County, Cal.: Gold quartz.
- Hawkins, E. M., Denver, Colo.: Publication—The Mining World.
- Hayes Brothers, Ashland, Wis.: Iron ore from Ashland mines.
- Heald, E. P., Nevada City mine, Nevada County, Cal.: Gold quartz.
- Heikes, Victor C., Boulder, Colo.: Gold ore, showing crystals of gold on sphalerite.
- Heim, Fred., Nasby, S. Dak.: Silver-lead ore.
- Heims, Thomas C., & Co., Osceola Mills, Pa.: Bituminous coal.
- Henly, George, Henly, Cal.: Sandstone.
- Henrich, Carl, Flat River, Mo.: Cobalt and nickel ores, with their associated rocks.
- Henry, C., Mining Company, Empire City, Kans.: Zinc ore, sphalerite.
- Hessleton, B. C., Petaluma, Cal.: Melanterite.
- Hetzel, David B., Newton, N. J.: Slate.
- Heydenfeldt, S., Coso mine, Inyo County, Cal.: Silver ore; also partzite from Mono County, and clay from Amador County.
- Hickey, D., Ormsby, Nev.: Copper ore.
- Hidden Treasure Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Hill, J. T., Black Oak mine, Tuolumne County, Cal.: Gold quartz.
- Hislop, T. George, western Florida: Ball clay, accompanied by example in bricklet form.
- Hogan, J., Ophir, Nev.: Lead and silver ore.

- Holmes Mining Company, Candelaria, Nev.: Chloride of silver ore.
- Holy Terror Mining Company, Keystone, S. Dak.: Gold ore.
- Home Mining Company, Star shaft, Leadville, Colo.: Silver lead ore of the typical gray lead sand carbonate, showing cerargyrite, assaying 1,000 ounces silver and 25 per cent lead.
- Home-Riverside Coal Company, Leavenworth, Kans.: Bituminous coal.
- Homestake Mining Company, Lead, S. Dak.: Series of ore specimens from the 200 to 800 foot levels. Photographs.
- Horsfal Mining and Milling Company, Gold Hill, Colo.: Gold and silver ore.
- Houghton, S. C., Pioneer Hydraulic mine, Sierra County, Cal.: Gold in cement.
- Hovey, William, Griffith mine, Clear Creek County, Colo.: Silver, lead, and copper ore.
- Hoyt, Howard, Hoyt's Granite quarry, Placer County, Cal.: Granite.
- Hudson and Chester Granite Company, Chester, Mass.: Granite.
- Hunt & Alexander, Royal Rock mine, San Bernardino County, Cal.: Gold quartz.
- Huntington, W. W., Gilman, Eagle County, Colo.: Gold ore and gray lead sand carbonates.
- Husband, W., Gopher Boulder mine, Placerville, Cal.: Gold quartz.
- Hyde, Henry C., Poule mine, Placer County, Cal.: Gold quartz.
- Hydraulic Press Brick Company, St. Louis, Mo.: Fire clay, for manufacture of fire brick, tiles, etc.
- Hymer, J. P., Copper Hill mine, Nahant, S. Dak.: Copper ore.
- Ibex Mining Company, Leadville, Colo.: Gold, silver, and copper ore, and iron oxide carrying values in gold and silver.
- Idaho Mining Company, Idaho mine, Nevada County, Cal.: Gold quartz.
- I. D. Company, Carson, Nev.: Soda crystals.
- Illinois Steel Company, Chicago: Iron ores.
- Independence Mining Company, Cripple Creek, Colo.: Gold telluride ore.
- Indiana Coal Company, Blairsville, Pa.: Bituminous coal
- Indiana Paving Brick Company, Brazil, Ind.: Shale, for manufacture of paving and vitrified brick.
- Ingalls Zinc Company, Newmarket, Tenn.: Zinc ore and concentrates.
- Ingersoll-Sergeant Drill Company, New York City: Rock drills and gas compressors, track and bar channelers, coal cutters, air receivers, and inter and after coolers.
- Integral Mining Company, Integral mine, Trinity County, Cal.: Quicksilver ore.
- Interstate Coal and Coke Company, Baltimore, Md.: Bituminous coal, coke.
- Inyo Development Company, Inyo County, Cal.: Silver ore, soda, borate of lime, and magnesite.
- Iowa Brick Company, Des Moines, Iowa: Clay for the manufacture of brick, accompanied by bricklet.
- Iowa Consolidated Mining Company, Central City, Mo.: Disseminated zinc ore, lead ore, breccia of sphalerite and chert.
- Iowa Gold Mining and Milling Company, Silverton, Colo.: Gold, lead, and silver ore.
- Iron Age Publishing Company, New York City: Publications relative to the iron industry, charts.
- Iron Hill Mining Company, Carbonate, S. Dak.: Lead ore.
- Iron Silver Mining Company, Moyer shaft, Leadville, Colo.: Silver and zinc ore, showing different types of ore for concentration.
- Irvine, J., San Joaquin ranch, Orange County, Cal.: Gypsum (alabaster).
- Isabella Mining Company, Cripple Creek, Colo.: Gold ore, fluorite, and oxidized quartz, from 500 and 1,000 foot levels, assaying \$400 and \$20,000 per ton.
- Ivanhoe Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Jackson, G. A., Sulphur Bank, Cal.: Sulphur.
- Jackson's New Jersey Brownstone quarry, Haledon, N. J.: Brownstone.

- Jeffrey Manufacturing Company, Columbus, Ohio: Coal-mining machinery, electric generators, mine locomotives, conveyors; crushers, and drills.
- Jeffs, L. A., Rockland, Mich.: Crystallized copper.
- Jenkins, W. W., San Feliciane placers, Cal.: Gold quartz (rich).
- Jocinte Mining Company, Humboldt County, Nev.: Copper ore.
- Jones, Edward, Sulphur Creek, Cal.: Aragonite.
- Jones, J. F., Blacksburg, S. C.: Iron ore, baryta.
- Johnson, N., Kern mine, Kern County, Cal.: Clay (fuller's earth).
- Johnston, J. A., Johnston's mine, San Bernardino County, Cal.: Silver ore.
- Judd, E. G., Columbia, Nev.: Silver ore.
- Juniper Mining Company, Juniper mine, Mariposa County, Cal.: Gold quartz.
- Justice Mining Company, Gold Hill, Nev.: Gold and silver ore.
- Kaolin Company, The, Sharon, Conn.: Koalin, for manufacture of earthenware, etc.
- Kahl, Charles, Cadmus mine, Nevada County, Cal.: Gold quartz, with pyrite.
- Kanaka Mining Company, Kanaka mine, Sierra County, Cal.: Gold quartz.
- Kelley, W., Lyon County, Nev.: Copper ore.
- Kemmerer Coal Company, Kemmerer, Wyo.: Bituminous coal.
- Kendall Mount Gold and Silver Mining Company, Silverton, Colo.: Gold and silver ore.
- Kennedy, David, Centennial mine, Georgetown, Colo.: Gold, silver, and copper ore.
- Kennedy, Mining Company, Imperial, Nev.: Gold ore.
- Kennedy Mining Company, Kennedy mine, Amador County, Cal.: Gold quartz.
- Kennedy Milling and Mining Company, Jackson, Amador County, Cal.: Mine timbering, showing method of timbering California mines.
- Kentucky Bluestone Company, Freestone, Ky.: Sandstone.
- Kentucky Construction Company, Mayfield, Ky.: Ball clay, accompanied by example in bricklet form.
- Kentucky Fluor Spar Company, Crittenden County, Ky.: Fluor spar, crude and ground.
- Kessler Brothers, San Francisco, Cal.: Onyx and aragonite.
- Keystone Gold Mining Company, Keystone, S. Dak.: Gold ore.
- Keystone Marble Company, Annville, Pa.: Marble.
- Keystone Quarries, Pacolet, S. C.: Granite.
- Kicking Horse Mining Company, Black Tail Gulch, Deadwood, S. Dak.: Gold ore.
- King, Dr. J. C. E., Salt Lake City, Utah: Copper ore from St. George.
- King Mining Company, The, King of Arizona mine, near Yuma, Ariz.: Gold ore.
- Kirk, W. H., Welcome, Nev.: Plumbago.
- Kirtley Tunnel Company, Georgetown, Colo.: Silver and lead ore.
- Kline, J., Esmeralda, Nev.: Black metal.
- Klondike Mining Company, Aurora, Mo.: Zinc ores, sphalerite, and calamine.
- Knapp, S. A., Mountain King, Nev.: Lead and silver ore.
- Knight, Jesse, Humbug mine, Eureka, Utah: Silver and gold ore, and sand carbonate of lead.
- Knight, John W., Connolton mines, Ward, Colo.: Tungsten ore.
- Knight, Wilbur C., Laramie, Wyo.: Collection of Wyoming ores.
- Kunz, George Frederick, 11-15 Union square, New York: Original publications.
- Lackawanna Iron and Steel Company, Scranton, Pa.: Iron ore from Tilly Foster mine.
- Ladd & Clement, Hard Tack mine, Trinity County, Cal.: Gold quartz.
- Lake, H. W., Daggett, Cal.: Iron ore.
- Lake Superior Consolidated iron mines, Duluth, Minn.: Iron ores.
- Lamartine Mining Company, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Larson, A., Euchre Bar mine, Placer County, Cal.: Gold quartz.
- La Sal Copper Mining Company, Cashin, Colo.: Copper ore; 1,000 tons shipped netted \$83,000.

- La Sal Mining Company, Red Chief mine, Paradox Valley, Colo.: Silver and copper ore.
- Last Dollar Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and oxidized quartz.
- Laswell, J. W., Laswell's mine, San Bernardino County, Cal.: Silver ore.
- La Tosca Mining Company, Oronogo, Mo.: Zinc ore, sphalerite.
- Lawler & Wills, Hillside, Ariz.: Gold ore.
- Lawrence, W. J., Salt Lake City, Utah: Silver and copper ore.
- Lee, T., Cactus mine, Inyo County, Cal.: Argentiferous galena.
- Le Grand Quarry Company, Marshalltown, Iowa: Limestone.
- Lehigh Coal Mining Company, Dickinson, N. Dak.: Bituminous coal.
- Lemoine, William, Porcupine mine, Mono County, Cal.: Gold quartz.
- Lemmon, H. A., Ormsby County, Nev.: Lead and silver ore, baryta.
- Leonard, P. H., Denver, Colo.: Publication—Ores and Metals; devoted to mining.
- Leopold, Nathan F., 102 Dearborn street, Chicago: Copper ores, massive and crystallized, from the Michigan mines.
- Lepper, G., Ormsby County, Nev.: Infusorial earth.
- Leschinske, Robert, Minerva mine, Inyo County, Cal.: Cerusite.
- Levy, H. M., Mono County, Cal.: Silver ore, partzite (oxide antimony).
- Lexington Coal Mining Company, St. Louis, Mo.: Bituminous coal.
- Lilienthal, A., Tuolumne mine, Tuolumne County, Cal.: Rich gold quartz.
- Lincoln Granite Company, Lincoln quarry, Placer County, Cal.: Granite.
- Lindsay, W. E., Douglas County, Nev.: Antimony.
- Linton, W. D., Wadsworth, Nev.: Volcanic ash.
- Lippincott, J. B., Company, Philadelphia, Pa.: Publications on minerals, chemistry, engineering, etc.
- Listie Mining Company, Somerset, Pa.: Bituminous coal.
- Little John Mining Company, Silverton, Colo.: Silver lead ore.
- Little, W. P., Chico mine, Shasta County, Cal.: Silver ore.
- Livingston Gold Mining Company, The, Sugar Loaf, Boulder County, Colo.: Gold ore, showing rusty gold.
- Llewellyn, H. H., Hillsboro, Sierra County, N. Mex.: Lead ore.
- Logan, H. R., Ormsby County, Nev.: Copper, ore.
- Lone Pine Mining Company, Big Bug District, Ariz.: Gold, silver, and copper ore.
- Long Dale Mining Company, Long Dale, Va.: Iron ore from Long Dale mine.
- Long, J., Elko County, Nev.: Coal.
- Long Valley Coal Company, Towanda, Pa.: Bituminous coal.
- Los Angeles Granite and Brownstone Company, Sespa, Cal.: Sandstone.
- Lost Lillie Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and galena.
- Lott, C. T., Philbrook, Cal.: Gold, silver, and lead ore.
- Lovelocks, G., Churchill County, Nev.: Nickel and cobalt, marble.
- Lowe, T. H., Cottonwood, Nev.: Basalt.
- Lowe, Henry P., Denver, Colo.: Free gold ore from the Topeka mine, Gilpin County, Colo.; value of specimen, \$1,800; value per ton, \$28,000.
- Lower Mammoth Mining Company, Tintic district, Utah: Gold and arsenical copper ore, with enargite.
- Low Moor Iron Company, Low Moor, Va.: Iron ore from Low Moor mine.
- Luce, W. D., Castle Dome mine, near Yuma, Ariz.: Fluor spar.
- Lucky Guss Mining Company, Cripple Creek, Colo.: Gold ore, showing tellurium, fluorite, and quartz, the characteristic phonolite ore of the Cripple Creek district.
- Lukens, T. P., Los Angeles County, Cal.: Soapstone from Santa Catalina Islands.
- Lyons, S. C., & Bros., Bennington, Vt.: Ball clay, accompanied by example in bricklet form.
- McAlester Coal and Mining Company, Wilburton, Ind. T.: Bituminous coal.



H-3. LOOKING NORTH FROM CROSS-SECTION OF GALLERY, DEPARTMENT OF MINING AND METALLURGY.



H-4. CENTRAL HEXAGONAL CASE IN ORE ROOM, CONTAINING \$50,000 OF FREE GOLD,
DEPARTMENT OF MINING AND METALLURGY.

- McBride, James N., Cashin, Colo.: Copper ore from vein 14 feet wide.
- McCarty, J., Gold Reef mine, Inyo County, Cal.: Gold quartz.
- McCoy, James H., Jackson County, N. C.: Kaolin for manufacture of earthenware, etc.
- McDonough, T., Inyo County, Cal.: Gold quartz.
- McGeoghegan, J., Consumers' copper mine, Amador County, Cal.: Copper ore.
- McGill Mining Company, J. F. Jones, Blacksburg, S. C.: Gold and iron ore.
- McKinley Mining Company, Carterville, Mo.: Lead ore, galena on chert.
- McLane, George B., Cincinnati, Ohio: Lead ore and fluor spar, crude and ground.
- McLean, John R., Washington, D. C.: Lead ore, sandstone, limestone, fluorite, etc.
- McMahon, Porter & Co., New Cumberland, W. Va.: Fire clay for manufacture of fire brick, tiles, etc.
- Mabee, George W., National mine, Gilpin County, Colo.: Gold ore.
- Mahoning Iron and Steel Company, Hibbing, Minn.: Iron ore from Mahoning mine.
- Maine and New Hampshire Granite Company, Portland, Me.: Granite.
- Maine Red Granite Company, Red Beach, Me.: Granite.
- Malones Mining Company, Malones mine, Tuolumne County, Cal.: Gold quartz.
- Mammoth Mining and Milling Company, Mammoth mine, Mammoth, Utah: Gold and copper ore.
- Mandle, I., St. Louis, Mo.: Kaolin and ball clay.
- Manhattan Mining Company, Austin, Nev.: Gold and silver ore, ruby silver ore.
- Mann, T. R., Logan mine, Crisman, Colo.: Gold ore, showing free gold and roscoelite.
- Marion Improvement Company, Demming, N. C.: Monazite sand.
- Marion Mining Company, Galena, Nev.: Silver and lead ore.
- Martha Washington Mining Company, Silver City, Utah: Silver ore.
- Martine, C. H., McClellan mine, Georgetown, Colo.: Silver ore, showing mineral polybasite.
- Maryland Coal Company, Lonaconing, Md.: Bituminous coal.
- Mary McKinney Mining Company, Cripple Creek, Colo.: Gold telluride ore, showing tellurium, fluorite, and quartz. Assays from \$200 to \$1,000 gold per ton.
- Massachusetts Institute of Technology, Boston, Mass.: Minerals of the oxygen salts of Dana's classification; collected by W. O. Crosby.
- Mathews, H. H., Boston, Mass.: Slate from Vermont and New York.
- Maxwell Land Grant Company, Raton, N. Mex.: Gold in nuggets and dust.
- Mayer, L. W., Mount Cliff, Cal.: Clay.
- Mayhugh, J. S., Elko County, Nev.: Copper ore.
- Mead, William, Hillsboro, Sierra County, N. Mex.: Lead ore.
- Melvina Mining Company, Salina, Colo.: Telluride ore.
- Menomonee Hydraulic Press Brick Company, Menomonee, Wis.: Clay, for making brick.
- Merriam, Dr. A. F., Rabbit Creek, Cal.: Model of gold nugget, value, \$614.
- Metich, J., Cave City mine, Calaveras County, Cal.: Gold quartz.
- Michigan Mining Company, Bay City, Mich.: Bituminous coal.
- Michigan School of Mines, Houghton, Mich.: Collection of native elements, occurring in the United States; collected by H. T. Mercer.
- Midas Gold Mining and Milling Company, Deep Creek, Utah: Gold and silver ore.
- Migman, Berryman & Ford, Ward, Colo.: Gold ore, iron pyrite.
- Milford Pink Granite Company, Boston, Mass.: Granite.
- Mill Creek Coal and Coke Company, Coopers, W. Va.: Bituminous coal, coke.
- Milmer, J., Indian Queen mine, Nev.: Lead and silver ore.
- Milwaukee Cement Company, Milwaukee, Wis.: Cement.
- Mine Hill Quarry Company, Roxbury Station, Conn.: Granite.
- Mine Hill Mining Company, Burnsville, N. C.: Chromic iron.

- Mine la Motte Mining Company, Mine la Motte, Mo.: Lead and nickel ores and furnace products. This mine has been worked continuously for two hundred years.
- Minnesota Iron Company, Soudan, Minn.: Iron ores.
- Minnesota Mining Company, 19 Congress street, Boston, Mass.: Native copper.
- Minnesota Sandstone Company, Minneapolis, Minn.: Sandstone.
- Mirabel Standard Mining Company, Mirabel mine, Lake County, Cal.: Quicksilver ore.
- Missouri Granite Company, St. Louis, Mo.: Granite.
- Mitchell, Charles, Howard Hill, Cal.: Scheelite.
- Mittallbury Coal and Coke Company, Mittallbury, W. Va.: Bituminous coal, coke.
- Modesti & Avila, Colorado mine, Yuma County, Ariz.: Galena.
- Mollie Gibson Consolidated Mining Company, Aspen, Colo.: Native silver; largest mass ever mined; value, \$3,000.
- Monongahela River Consolidated Coal and Coke Company, Pittsburg, Pa.: Bituminous coal, coke.
- Monson Maine Slate Company, Boston, Mass.: Slate.
- Montana Coal and Coke Company, Fairmont, W. Va.: Bituminous coal, coke.
- Montana Coal and Coke Company, Horr, Mont.: Bituminous coal, coke.
- Monte Cristo Mining Company, Galena, Kans.: Zinc ore, greenockite on smithsonite.
- Moonshine Mining Company, Granby, Mo.: Zinc ore, crystallized calamine, smithsonite, and sphalerite.
- Morgan, D. W. C., Star Light mine, Eldorado County, Cal.: Gold quartz.
- Morgan Milling Company, Carson City, Nev.: Copper sulphate.
- Morning Star Mining Company, Ward, Colo.: Gold ore.
- Morning Star Mining Company, Morning Star mine, Alpine County, Cal.: Silver ore (enargite).
- Morrell, J. A., Cedarberg mine, El Dorado County, Cal.; Gold quartz.
- Morrisdale Coal Company, Philadelphia, Pa.: Bituminous coal.
- Morrison, E. A., Petersburg, Va.: Fire clay, for manufacture of fire brick, tiles, etc.
- Morris Run Coal Company, Corning, N. Y.: Bituminous coal.
- Morse, H., Victorine District, Nev.: Gold and silver ore.
- Moss, Jerome, Grover, N. C.; Clay, for manufacture of brick, accompanied by bricklet.
- Mountain Copper Company, Shasta County, Cal.: Refiners' products, copper matte and moss, copper bar, copper ore.
- Mountaineer Mining Company, Mountaineer mine, Nevada County, Cal.: Gold quartz.
- Mount Airy Granite Quarries, Mount Airy, N. C.: Granite.
- Mount Carbon Coal Company, Powellton, W. Va.: Bituminous coal.
- Mountford, Elijah, South Amboy, N. J.: Ball clay, accompanied by example in bricklet form.
- Mount Copper Company, Lost Confidence mine, Shasta County, Cal.: Limonite.
- Mount Diablo Mining Company, Mount Diablo, Nev.: Black metal.
- Mount Hope mine, Humbug, Ariz.: Gold, silver, and lead ore.
- Mouse River Lignite Coal Company, Burlington, N. Dak.: Bituminous coal.
- Moyer, J. S., & Co., Bethlehem, Pa.: Straight and curved slates.
- Murdock, William A., Norwegian mine, Tuolumne County, Cal.: Gold quartz (rich).
- Murphy, Arthur, Marguerite mine, Milford, Utah: Copper ore.
- Murphy, F. M., Castle Creek, Ariz.: Manganese ore.
- Muscovite Mica Company, Auditorium Building, Chicago: Fine quality of mica from Idaho.
- Myles Salt Company, New Orleans, La.: Salt.
- National Bank of Commerce, Seattle, Wash.: Gold nuggets.
- National Lead Company, St. Louis, Mo.: Lead ore, galena.

National Nickel Company, Churchill, Nev.: Nickel and cobalt; also annabergite and nicolite from Table Mountain.

National Steel Company, Chicago, Ill.: Iron ore from Champion mine.

Neff, J. H., Penryn, Cal.: Granite.

Neidy, J. Aurora, Nev.: Gold ore, obsidian.

Neodesha Mining Company, Ouray, Colo.: Silver ore, showing stephanite.

Nesbit, J. S., Spring Valley mine, Butte County, Cal.: Gold quartz.

Nettie Mining Company, Griffith mine, Georgetown, Colo.: Silver and lead ore.

Nevada and Boston Company, Lyon County, Nev.: Copper ore.

Nevada Commission to Paris Exposition, Carson City, Nev.: Collective exhibit of Nevada minerals. Contributors:

Aluminium Lustre Company, Esmeralda County: Diatomaceous earth.

Eagle Mining Company, Eagle mine: Gold ore.

Fish, G., Ida mine: Silver ore.

Hadley, T. J., Arizona mine: Silver and gold ore.

Hilp, S., Joanna mine: Gold ore.

Hogan, J. W., Wall Street mine: Copper ore.

Ingalls, W., Esmeralda County: Coal.

Keystone Mining Company, Keystone mine: Gold ore.

Lang, J., Elko County: Coal.

Murphy & Eggers, Bullion mine: Copper and silver ore.

Roberts, G., Pine Mountain: Lead ore.

Roberts, S. P., Black Jack: Gold and silver ore.

Nevada, State of: Collection of minerals representing the resources of the State, collected by J. A. Yerington, H. B. Maxson, and W. J. Dooley.

New Almaden Quicksilver Mining Company, New Almaden, Cal.: Glass model of mine; wood model self-closing door. Iron floating on quicksilver.

Newcomb, B. M., Napa Consolidated mine, Napa County, Cal.: Quicksilver ore.

New Dunderberg Mining Company, Silver Plume, Colo.: Silver and lead ore.

New England Brown Stone Company, Cromwell, Conn.: Brownstone.

New England Gas and Coke Company, The, Everett, Mass.: Bituminous coal, coke.

Newhouse & Weir, Dragon mine, Silver City, Utah: Gold and silver ore.

New Idria Quicksilver Mining Company, Tres Pinos, San Benito County, Cal.: Mercury ore, cinnabar.

New Jersey Zinc Company, Franklin Furnace, N. J.: Zinc ore, manganese, millerite, franklinite.

New Sapphire Syndicate, Great Falls, Mont.: Oriental sapphires, in the rough.

New Salt and Borax Company, Rhodes, Nev.: Borax, borate of lime.

Newsboy Mining Company, Ouray, Colo.: Silver lead ore.

Newton, H. A., Hanover mine, Fresno County, Cal.: Gold quartz.

New York and Rosendale Cement Company, Ulster County, N. Y.: Light cement rock.

New York State Museum, Albany, N. Y.: Geological reports.

Niagara Mining Company, Niagara mine, Trinity County, Cal.: Gold quartz.

Nichols, H. W., Chicago, Ill.: Zinc ores from Arkansas; zinc and lead ores from Wisconsin.

Nisi Prius Mining Company, Leadville, Colo.: Hard carbonate lead ore.

Nix, C. H., Ouray, Colo.: Silver lead ore, assaying 1,000 ounces silver to the ton.

Nixon, G., Winnemucca, Nev.: Refined sulphur.

Noble, William, Eureka mine, San Diego County, Cal.: Gold quartz (assays \$2,000 per ton).

Noon, A. A., Eureka, Utah: Kaolin.

Norcross Brothers, Boston, Mass.: Marble, granite, and sandstone.

North Bloomfield Gravel Company, San Francisco, Cal.: Model of the largest gold bar ever cast, representing one month's run.

- North Carolina Board of Agriculture, Raleigh, N. C.: Gold nuggets. Contributors:
- Bunnell Mountain mine, Montgomery County.
 - Caldwell County.
 - Dry Hollow mine, Montgomery County.
 - Eldorado Township, Montgomery County.
 - Gold Hill mine, Rowan County.
 - Miller mine, Rowan County.
 - Montgomery County—Various placer mines.
 - Nugget mine, Cabarrus County.
 - Parker mine, Stanly County.
 - Ramslen mine, Gaston County.
 - Redding mine, Moore County.
 - Smitherman mine, Montgomery County.
- North Carolina Paris Commission, Raleigh, N. C.: Collection of ores, representing the mineral wealth of North Carolina. Contributors:
- Aiken, E. A., Brevard: Auriferous sulphides.
 - Aldrich, M., Washington, District of Columbia: Auriferous limonite.
 - Aldrich Mining Company, Salisbury: Free milling gold ore.
 - American Mills Mining Company, Mecklenburg County: Chalcopryrite.
 - American Mining Company, Cabarrus County: Chalcopryrite.
 - Ames, M., Charlotte: Auriferous pyrite.
 - Anderson Mining Company, Salisbury: Auriferous sulphides.
 - Ballow & Gentry, Jefferson, Ashe County: Magnetite (manganiferous).
 - Bates, J. G., Franklin: Hematite.
 - Bessemer Mining Company, Bessemer City: Limonite.
 - Blue Wing Mining Company, Granville County: Bornite, copper, malachite.
 - Bost, Charles, Cabarrus County: Auriferous sulphides.
 - Bost, Martin, Cabarrus County: Auriferous sulphides.
 - Boyleston Gold Mining Company, Henderson County: Free milling ore.
 - Brimley, H. H., Raleigh, Ashe County: Magnetite.
 - Bruner, T. K., Raleigh, Gaston County: Magnetite.
 - Buckley, W. F., Rowan County: Auriferous sulphides.
 - Campbell, J. C., Moore County: Azurite and malachite.
 - Carson, J. H., Charlotte: Auriferous sulphides.
 - Cheek Mining Company, Chatham County: Bornite with malachite.
 - Childers, William, Grimley's: Limonite.
 - Clayton Bros., Davidson County: Auriferous pyrite, limonite.
 - Clegg Mining Company, Chatham County: Chalcopryrite, azurite, malachite.
 - Counder, Eli, Indian Trail: Auriferous sulphides and carbonates.
 - Cowie Creek Mining Company, Macon County: Argentiferous pyrite galenite.
 - Cranberry Iron and Coal Company, Cranberry, Mitchell County: Magnetite.
 - Crowell, M. E., Indian Trail: Auriferous sulphides.
 - Deaton, J. M., Swinton: Free milling gold ore.
 - Deep River Mining Company, Greensboro: Auriferous sulphides.
 - Dixon Mining Company, Yadkin County: Malachite, chalcopryrite.
 - Dortch, H. P., Junior, Raleigh: Hematite.
 - Douglass, M., Dunn: Hematite (manganiferous).
 - Dunn's Mountain Mining Company, Salisbury—Auriferous sulphides.
 - Eames, R., jr., Ashe County—Malachite, bornite, chalcopryrite, copper.
 - Fagg, M., Danbury, Stokes County—Magnetite.
 - Finch, J. W., & Co., Davidson County—Argentiferous sulphides.
 - Fuller, Dr. A., Jones—Free milling gold ore.
 - Furr, Dr. S., Cabarrus County—Auriferous sulphurets.
 - Gillis Mining Company, Person County—Chalcocite, malachite, bornite.

North Carolina Paris Commission, Raleigh, N. C., etc.—Continued.

Goggins, George, Eldorado—Free milling gold ore.

Graham, W. A., Lincoln County—Auriferous sulphides.

Graybeal, Joseph, Jefferson—Magnetite.

Greensboro Iron and Steel Company, Greensboro—Hematite.

Griffin, J. W., Monroe—Auriferous limonite.

Gullock Mining Company, Jackson County—Malachite in limonite.

Hanks Iron Property, Murphy—Limonite.

Hanna, George B., Charlotte—Auriferous sulphides.

Harris, J. F., Thomasville—Auriferous sulphides.

Hauser, Henry, Lincolnton—Pyrolusite.

Hedrick, M. L., Davidson County—Auriferous sulphides.

Hoke, Gen. R. F., Raleigh—Hematite (martite schist).

Holmes, J. A., Chapel Hill—Chromite.

Honeycut, D. W., Gold Hill—Placer alluvial dirt.

Hoover Hill Company, Limited, Randolph County—Free milling gold ore.

Isenhour, George W., Gold Hill—Free milling ore.

Jones, Milton, Eldorado—Free gold in sulphides and slate.

Justice, John, Plumtree—Red hematite.

Kesler, J. W., Garfield—Free milling gold ore.

Klutz & Peck, Cabarrus County—Malachite in slate.

Lawton, Charles L., Bessemer City—Magnetite,

Lewis, J. L. V., Brooklyn, New York—Auriferous sulphides.

Link-Benedict Mining Company, Iron Station—Magnetite.

McDowell, Manly, Morganton—Limonite.

McMackin Mining Company, Salisbury—Auriferous pyritic slate.

Mann, Charles G., High Point—Gold bearing gravel.

Miller, C. A., Eli—Auriferous sulphides.

Mills, J. C., Burke County—Auriferous gravel.

Monroe, J. L., Swinton—Free milling gold ore.

Morse Mining Company, Murphy—Limonite.

Muffley, J. R., Eldorado—Auriferous sulphides.

Newman, J. J., Rowan County—Auriferous copper ore.

Newman, W. G., Salisbury—Auriferous sulphides in slate.

North Carolina Agricultural Department, Wilkes County—Silver ore.

North Carolina Steel and Iron Company, Greensboro—Limonite.

Nussman Mining Company, Cabarrus County—Auriferous chalcopyrite.

Oddy, Thomas, Salisbury—Auriferous sulphides.

Palmer, Robert, Guilford County—Auriferous sulphides.

Parrott & Armstrong, King's Mountain, Gaston County—Magnetite.

Parton, George, Burningtown—Limonite (manganiferous).

Patterson, S. L., Raleigh—Psilomelane.

Perkins Mining Company, Caldwell County—Auriferous sulphides, limonite.

Peters, J. F., Davidson County—Auriferous sulphides.

Pharr Mining Company, Cabarrus County—Chalcopyrite.

Phoenix Mining Company, Cabarrus County—Auriferous pyrite.

Pitcher, Captain A., Charlotte—Auriferous sulphides.

Plummer, J. R., & Company, Jones—Auriferous sulphides.

Pratt, J. H., Chapel Hill—Chromite.

Randleman, J. L., Salisbury—Auriferous sulphides.

Ray, G. D., Burnsville—Chromite.

Reed Mining Company, Cabarrus County—Chalcopyrite and malachite.

Redding, Dr. A. H., Cedar Falls—Free milling ore.

Reynolds, J. R. & A. S., Winston, Forsyth County—Magnetite.

North Carolina Paris Commission, Raleigh, N. C., etc.—Continued.

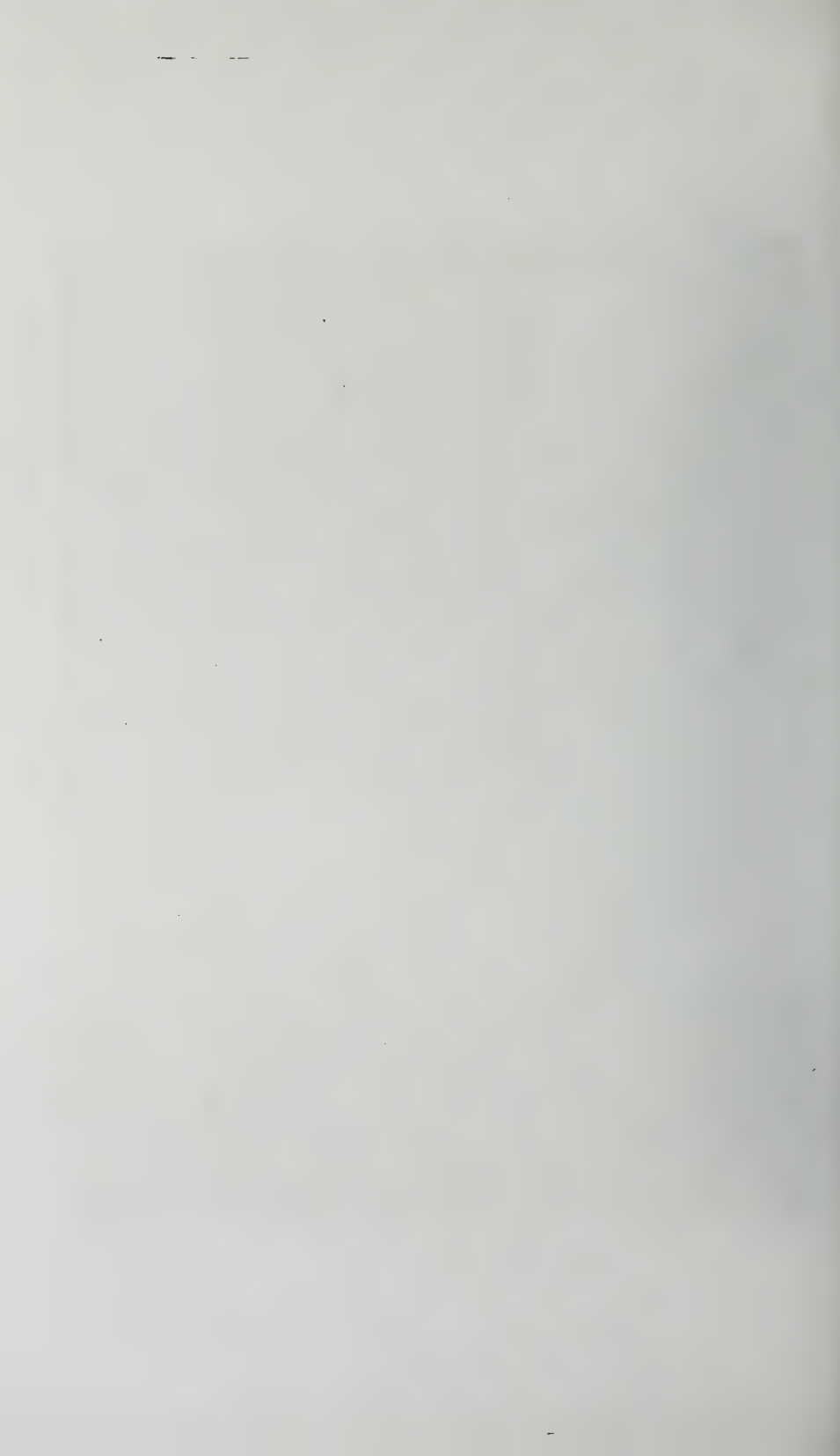
- Rives, Miss Lucy, Raleigh—Magnetite.
- Roan Mountain Iron and Steel Company, Bakersville—Specular hematite.
- Rogers, M., Danbury—Magnetite.
- Russell Gold Mining Company, Glenbrook—Free milling gold ore.
- Russell, Nelson, Eldorado—Free milling gold ore.
- Sanders, Tobe, Eldorado—Free milling gold ore.
- Seacrest, L. M., Indian Trail—Auriferous sulphides.
- Shipletts Mining Company, Shipletts—Auriferous sulphides.
- Silver Mining Company, Davidson County—Argentiferous sulphides.
- Smart Mining Company, Union County—Argentiferous galena.
- Smith, A. W. S., Charlotte—Auriferous sulphides.
- Smith, H. M., Cabarrus County—Auriferous copper ore.
- Southern Belle Mining Company, Salisbury—Auriferous limonite.
- Stanley Freehold Mining Company, Stanley County—Free gold in quartz.
- Stanley, Isaac, Guildford County—Chalcopyrite and pyrite.
- Tarbell, S. H., Indian Trail—Auriferous sulphides.
- Thayer, N. M., Eldorado—Free milling and sulphide ore.
- Theis, M., Concord—Free milling gold ore.
- Thing, C. C., Indian Trail—Auriferous sulphides.
- Tierman, Mrs. J. M., Rowan County—Argentiferous galena.
- Tomlinson, Dr. J. M., Rosedale—Auriferous sulphides.
- Toneotta Iron Company, Murphy—Limonite.
- Troutman Mining Company, Rowan County—Argentiferous sulphides.
- Union Mining Company, Cabarrus County—Chalcopyrite, malachite, limonite.
- Valleytown Mining Company, Murphy—Limonite.
- Viele, C. G., Rowan County—Auriferous sulphides.
- Warren, S. J., Charlotte—Auriferous pyrite.
- Welborn Mining Company, Davidson County—Argentiferous galena, pyrite.
- West Prussian Mining Company, Davidson County—Silver ores, sulphides.
- Widenhouse Mining Company, Cabarrus County—Free milling ores.
- Wilcox, W. C., Carthage—Free milling gold ore.
- Wilkes, John, Mecklenburg County—Auriferous sulphides.
- Wilkins, J., & Co., Davidson County—Auriferous sulphides.
- Williams, Mrs. W., Gold Knob—Auriferous sulphides.
- Wilson Mining Company, Wilson's Mills—Limonite.
- Yoke, A. J., Weldon—Auriferous limonite.
- Yountz, J. L., Indian Trail—Auriferous galenite.
- North Carolina State Museum, Raleigh, N. C.: Collection of unpolished gems.
- North Empire Mining Company, Empire City, Kans.: Lead ore, crystals of galena.
- Northern Coal Company, Denver, Colo.: Bituminous coal.
- Northern Michigan Marble Company, Foster City, Mich.: Marble.
- Northern Pacific Coal Company, Tacoma, Wash.: Bituminous coal.
- North Monson Maine Slate Company, Worcester, Mass.: Slate.
- North Star Mining Company, North Star Mine, Shasta County, Cal.: Gold quartz.
- North Star Mining Company, Silverton, Colo.: Gold and silver ore.
- Norton, C. S., Blue Stone Company, Bedford, Ind.: Limestone.
- Notla Consolidated Marble, Iron and Talc Company, Kinsey, N. C.: Marble.
- Oakes Mining Company, Cove Spring, Kans.: Zinc and lead ore, sphalerite, and galena.
- Oak Hill Mining Company, Chatham County, N. C.: Iron ore.
- O'Oonnor, Con., Rockland, Cal.: Granite.
- Ohio Fire Brick Company, Oak Hill, Ohio: Flint clays.
- Oil Well Supply Company, Pittsburg, Pa.: Oil well machinery in operation; tools and supplies.

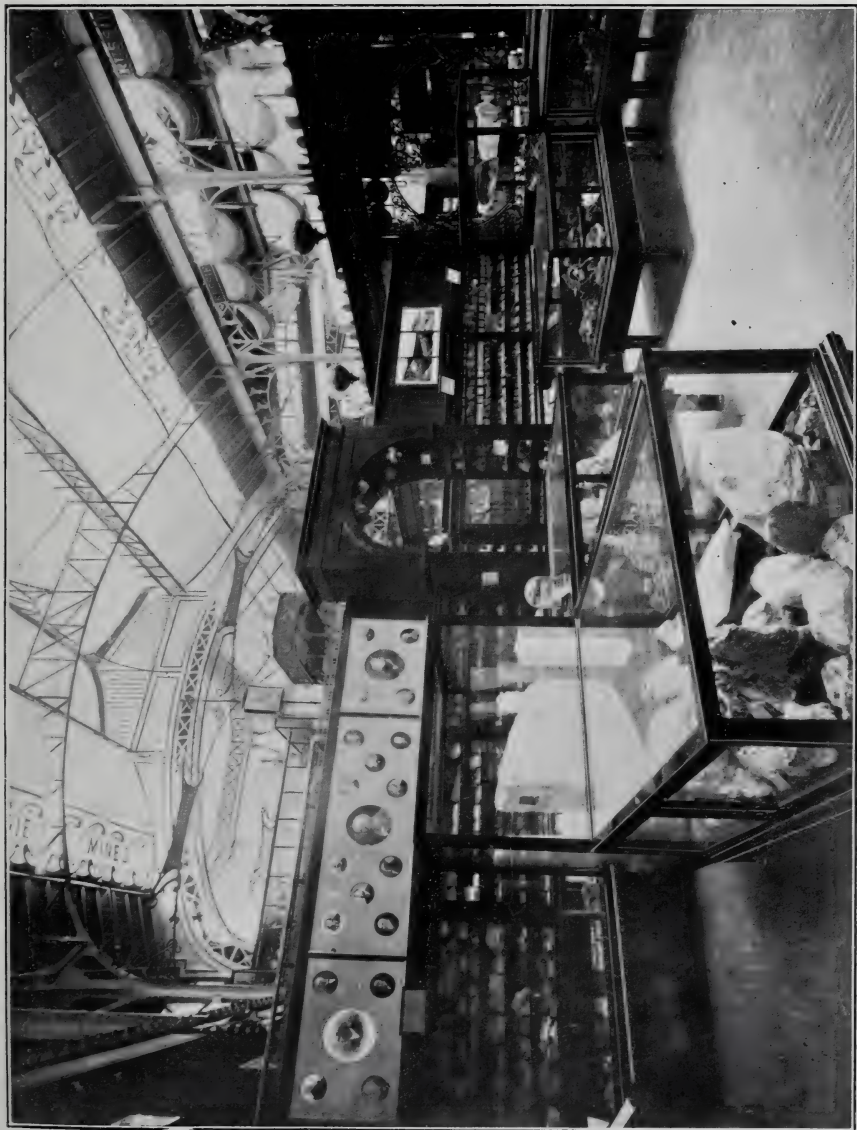
- Old Dominion Copper Company, Baltimore, Md.: Mines at Globe, Ariz.—Copper pseudomorph after cuprite.
- Old Dominion Mining Company, Coville, Wash.: Silver ore, with cerargyrite and bromyrite.
- Old Jordon and Galena Mining Company, Bingham, Utah: Gold and copper ore.
- Oleta Marble Company, Oleta Marble Quarry, Amador County, Cal.: Marble.
- Oliver, Dave, Bonanza Mine, Tuolumne County, Cal.: Hessite and free gold.
- Oliver Iron Mining Company, Milwaukee, Wis.: Iron ores.
- Omaha and Grant Smelting Company, Smuggler Mine, Aspen, Colo.: Lead and silver ore.
- Ontario and Western Railway Company, New York City: Anthracite coal.
- Ontario Silver Mining Company, Ontario Mine, Park City, Utah: Silver and lead ores. This mine has paid \$40,000,000 in dividends.
- Ophir Mining Company, Comstock, Nev.: Sulphurets.
- Oregon Coal and Navigation Company, San Francisco, Cal.: Bituminous coal.
- Oregon Improvement Company, Seattle, Wash.: Bituminous coal.
- Ore Knob Mining Company, Gold Hill, N. C.: Copper ore.
- Oro Bella Mining Company, Oro Bella, Ariz.: Gold ore.
- Orton, Edward, jr., Columbus, Ohio: Publications on geology.
- Osborne, Seager & Co., Cleveland, Ohio: Bituminous coal.
- Oskaloosa Coal Company, Oskaloosa, Iowa: Bituminous coal.
- Overland Mining and Milling Company, Sunshine, Utah: Gold ore, with orpiment and cinnabar.
- Ozark Mining Company, Galena, Kans.: Lead ore, galena, and chert.
- Pacific Coast Borax Company, Mojave Desert, Cal.: Borax.
- Pacific Coast Borax Company, San Francisco, Cal.: Borax, crude and prepared.
- Pacific Copper Company, Esmeralda County, Nev.: Copper ore.
- Pahannes, Capt. Isaac, Royal Sulphur mine, near Yuma, Ariz.: Sulphur and alum.
- Parfet, G. W., Golden, Colo.: Clay, for manufacture of stoneware, etc.
- Parke County Coal Company, Rosedale, Ind.: Bituminous coal.
- Parks, S. F., Amador, Cal.: Marble.
- Parrett, J., Bonanza mine, Mono County, Cal.: Gold quartz.
- Parry, E. L., & Sons, Manti, Utah: Sandstone and limestone.
- Parry, R., Washoe County, Nev.: Copper ore.
- Patterson, C. W., Lyon County, Nev.: Copper ore.
- Patton Coal Company, Patton, Pa.: Bituminous coal.
- Pearce, Richard, manager, Boston and Colorado Smelting and Refining Company, Denver, Colo.: Ores treated at the Argo Smelter, Argo, Colo.
- Pelican Dives Mining Company, Georgetown, Colo.: Silver and lead ore.
- Penn Mining Company, Favorite mine, Lynx Creek, Ariz.: Gold, silver, and lead ore.
- Pennsylvania Coal Company, New York City: Anthracite coal.
- Pennsylvania Railroad Company, Philadelphia, Pa.: Anthracite coal.
- Penrod, E., Elko County, Nev.: Gold ore.
- Penrose Home Mining Company, Leadville, Colo.: Lead and silver ore.
- Penrose, R. A. F., Pearce, Ariz.: Silver, showing cerargyrite.
- Perfumo, P. B., Perfumo Ranch, San Luis Obispo County, Cal.: Limonite.
- Perkins Company, The, New York City: Bituminous coal.
- Perry, Mathews & Buskirk, Bedford, Ind.: Limestone.
- Perth Amboy Terra Cotta Company, Perth Amboy, N. J.: Clay for making brick, with bricklet.
- Pettinos Brothers, Byers, Pa.: Graphite.
- Pewabic Mining Company, Iron Mountain, Wis.: Iron ore from Pewabic mines.
- Peyton, Gill S., Picnic mine, Silver City, Utah: Silver and lead ore.
- Phal, Richard, Platt & Gilson mine, Tuolumne County, Cal.: Gold quartz (rich).

- Pharmacist Mining Company, Cripplecreek, Colo.: Gold ore, fluorite, and quartz, \$100 gold per ton.
- Pierce, John, 5 Beekman street, New York City: Polished red granite columns utilized in construction of façade of United States mining exhibit.
- Pierce, J. V., Cherokee County, Kans.: Collective exhibit of lead and zinc ores.
- Pigeon Roost Belt, Lumpkin County, Ga.: Gold ore.
- Pike Manufacturing Company, Pike Station, N. H.: Whetstone of all kinds.
- Pilgrim Mining Company, Cavespring, Mo.: Zinc ore from soft ground, calamine, and concentrates. Concentrates 63 per cent zinc.
- Pinnacle Gold Mining Company, Cripplecreek, Colo.: Gold ore, phonolite, and basalt, from \$20 to \$2,000 per ton in gold.
- Pittsburg and Lake Angeline Mining Company, Marquette, Mich.: Iron ore from Lake Angeline.
- Pittsburg and Wheeling Coal Company, Cleveland, Ohio: Bituminous coal.
- Pittsburg Coal Company, Pittsburg, Pa.: Bituminous coal.
- Pittsburg Coal Mining Company, Somersville, Cal.: Bituminous coal.
- Pittsburg Crushed Steel Company, Pittsburg, Pa.: Polishing substances, crushed steel, and steel emery.
- Place, O. F., Buckeye mine, Bradshaw Mountains, Ariz.: Gold, silver, and lead ore.
- Placerville Gold Mining Company, Rosebud mine, Eldorado County, Cal.: Gold quartz.
- Plastic Kaolin Company, The, Edgar, Fla.: Ball clay, accompanied by example in bricklet form.
- Platt Pressed Brick Company, Vanmeter, Iowa: Fire clays, for manufacture of fire brick, tiles, etc.
- Pleasant River Granite Company, Portland, Me.: Granite.
- Pleasant Valley Coal Company, Salt Lake City, Utah: Bituminous coal.
- Plymouth Consolidated Mining Company, Plymouth mine, Amador County, Cal.: Gold quartz (from a chute that yielded \$10,000,000).
- Pomona Terra Cotta Company, Pomona, N. C.: Shale, for manufacture of paving and vitrified brick.
- Poole Brothers Publishing Company, Chicago: Mining directory and reference book.
- Poole's Granite and Marble Company, Elmtown, Mass.: Granite.
- Polar Star Mining Company, Silverton, Colo.: Gold and silver ore.
- Porter, Charles M., Joplin, Mo.: Lead ore, galena.
- Portland Cement Company, Salt Lake City, Utah: Crude and prepared cement.
- Portland Mining Company, Cripplecreek, Colo.: Gold ore, including the rare sylvanite of that district.
- Poston, C. L., & Co., Nelsonville, Ohio: Bituminous coal.
- Prairie Creek Coal Company, Huntington, Ark.: Bituminous coal.
- Pratt, A. C., Red Canyon, Nev.: Lead, silver, and iron ore.
- Prescott Mining Exchange, Prescott, Yavapai County, Ariz.: Gold, silver, lead, and copper ore.
- Preston, E. B., Evening Star mine, Haydenhill, Cal.: Gold quartz, anglesite, aragonite, calcites, molybdenite, coal.
- Pridgeon, D. E., Salem, Ohio: Clay for manufacture of brick, accompanied by bricklet.
- Princeton University, Princeton, N. J.: Collection of minerals of the oxide group occurring in the United States, by E. R. Hewitt.
- Providence Gold Mining Company, Providence mine, Nevada County, Cal.: Gold quartz, assaying \$1,200 per ton.
- Pulaski Iron Company, Pulaski, Va.: Iron and zinc ore, limonite, hematite, and zinc accretions from stack of furnace.

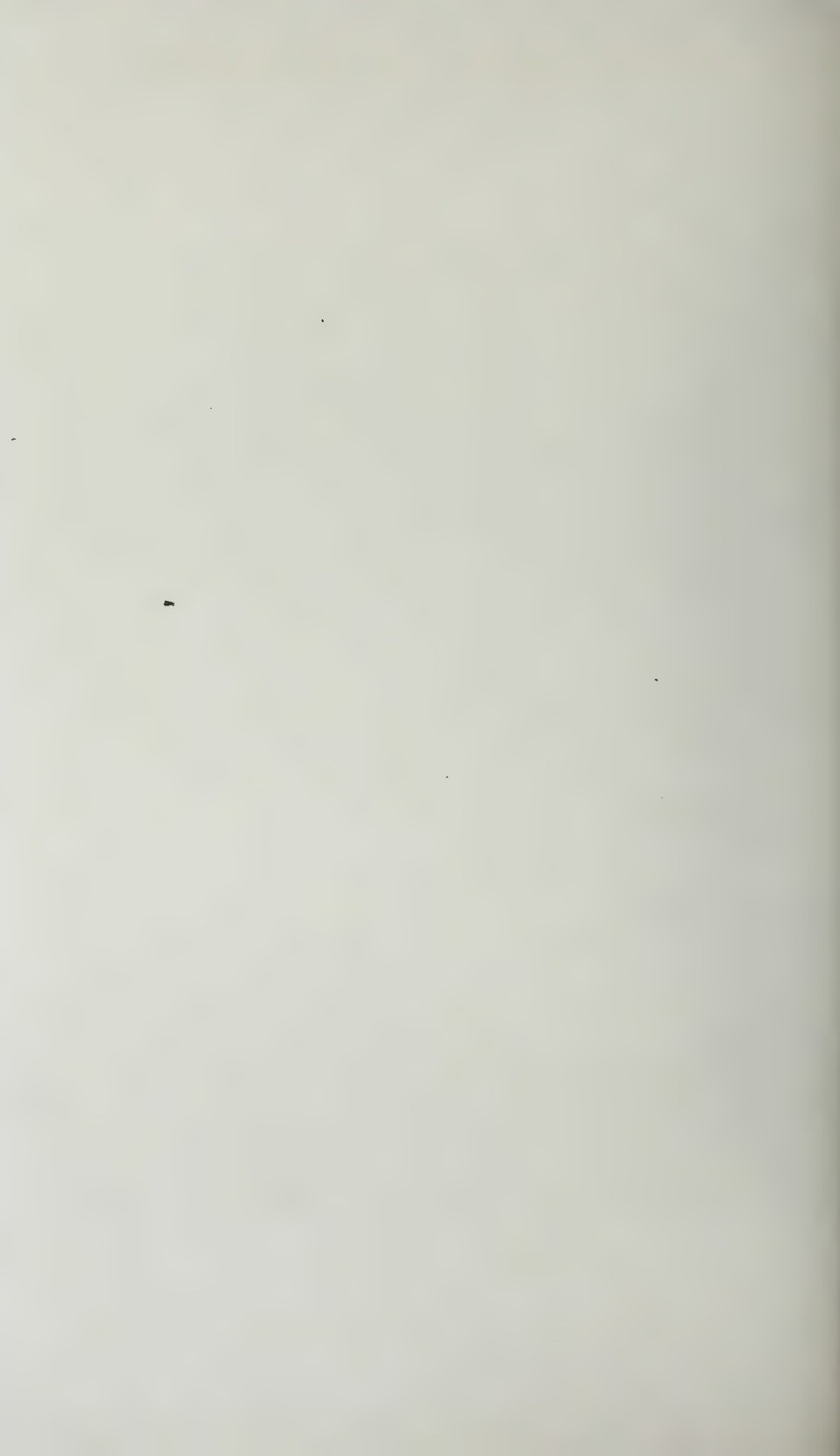


H-6. BUILDING STONE, CLAY AND GEM EXHIBITS, DEPARTMENT OF MINING AND METALLURGY.





H-7. DIAGONAL VIEW NO. 2 OF THE COLLECTIVE ORE EXHIBIT, DEPARTMENT OF MINING AND METALLURGY.



- Purinton Paving Brick Company, Galesburg, Ill.: Shale for making paving and vitrified brick.
- Putnam's, G. P., Sons, New York City: Publications on geology, mining, metallurgy, and mineralogy.
- Pyle, D. M., St. Elmo mine, Kern County, Cal.: Gold quartz (rich—assays \$1,000 per ton).
- Pyramid Mining Company, Pyramid mine, Eldorado County, Cal.: Gold quartz.
- Queen County Stoneware Company, Denver, Colo.: Stoneware clay for manufacture of stoneware, etc.
- Quicksilver Mining Company, New Almaden, Santa Clara County, Cal.: Mercury ore, cinnabar.
- Quincy Mining Company, Hancock, Mich.: Copper rock.
- Rainbow Mining Company, Sierra County, Cal.: Arsenical pyrite; silver ore from Inyo County.
- Rand Drill Company, New York City: Rock drills for mine and quarry work, air compressors, prospecting and core drills.
- Randolph, B. S., Frostburg, Md.: Sandstone.
- Rangel, Robert, Henley, Cal.: Sandstone.
- Ranlett, Captain, Calaveras County, Cal.: Copper ore.
- Raton Coal and Coke Company, Raton, N. Mex.: Bituminous coal.
- Raycraft, E., Douglas County, Nev.: Copper ore.
- Raymond Granite Company, Raymond granite quarry, Madera County, Cal.: Granite.
- Raymond, M., Star mine, Fresno County, Cal.: Silver ore.
- Raymond & Ely, Ely, Nev.: Silver ore.
- Reardon, George W., Ward, Colo.: Iron ore.
- Red Umbrella Mining Company, Cripplecreek, Colo.: Gold ore, basalt, and quartz, assaying from \$20 to \$40 gold per ton.
- Redway, J. W., Los Angeles County, Cal.: Vivianite, siderite.
- Reed, A. J., Blue Bird mine, Nevada: Copper ore.
- Reed, C., Diamond, Nev.: Lead and silver ore.
- Reed, C. F., Gold Blossom mine, Placer County, Cal.: Gold quartz.
- Reed, H. W., Ouray, Colo.: Silver lead ore.
- Reeves, C. P., Suisun, Solano County, Cal.: Sandstone.
- Reid, I. H., Union mine, Calaveras County, Cal.: Azurite (rich).
- Reims, Thomas C., & Co., Osceola Mills, Pa.: Bituminous coal.
- Reinhold, H., & Co., Custer, S. Dak.: Spodumene, shipping 1,000 tons to Germany for extraction of lithia.
- Rend, W. P., & Co., Chicago: Bituminous coal.
- Republic Iron and Steel Company, Chicago: Iron ore.
- Republic Mining Company, Republic, Mich.: Iron ore from Republic mine.
- Republic Mining and Manufacturing Company, Rockrun, Ala.: Bauxite.
- Rhode Island Granite Works, Westerly, R. I.: Granite.
- Rhode Island Graphite Company, Arlington, R. I.: Graphite.
- Rhodes, E. and D., Lincoln County, N. C.: Potter's clay, for manufacture of earthenware, etc.
- Rhodes, M. G., Ætna mines, Napa County, Cal.: Quicksilver ore, cinnabar.
- Rhopeter, George, Lone Pine mine, Big Bug District, Ariz.: Copper ore.
- Richardson, J. M., Star of the West mine, Calaveras County, Cal.: Gold quartz.
- Richards, T., Sheridan mine, Calaveras County, Cal.: Azurite.
- Rich Hill Coal and Mining Company, St. Louis, Mo.: Bituminous coal.
- Richmond Consolidated Mining Company, Richmond, Nev.: Lead and silver ore.
- Richmond Mining and Milling Company, Salina, Boulder County, Colo.: Gold ore, showing petzite.

- Richmond Mining Company, Cartersville, Mo.: Zinc and lead ores, sphalerite, and galena.
- Rickard, Forbes, Seventy-Six mine, Gilpin County, Colo.: Gold and silver ore.
- Rider, P. S., Rico, Colo.: Collection of the Enterprise ores.
- Ridgway Burton Company, Massillon, Ohio: Bituminous coal.
- Ridgway Mining Company, Silverton, Colo.: Gold and silver ore.
- Rittenhouse, N. M., Baltimore, Md.: Clay, for manufacture of brick, accompanied by bricklet.
- Riverside Iron Works, Wheeling, W. Va.: Bituminous coal.
- Roach, James, Tuckahoe, Mo.: Zinc ore, sphalerite in clay.
- Roach, Thomas, Yavapai County, Ariz.: Gold quartz.
- Roberts, P. Z., North Star mine, Nevada County, Cal.: Gold quartz.
- Robins Conveying Belt Company, Park Row buildings, New York City: Operating belt conveyors for handling ore, coal, and tailings in smelters, cyanide works, and concentrating plants.
- Robinson Mining Company, Mammoth, Utah: Silver, lead, and copper ore.
- Rochester and Pittsburg Coal and Iron Company, Punxsutawney, Pa.: Bituminous coal.
- Rockhill Iron and Coal Company, Rockhill Furnace, Pa.: Bituminous coal.
- Rocklind Quarry Company, Rocklink quarry, Placer County, Cal.: Granite.
- Rockport Granite Company, Boston, Mass.: Granite.
- Rocky Ford Coal Company, Red Lodge, Mont.: Bituminous coal.
- Rocky River Brownstone Company, Bay City, Mich.: Sandstone.
- Rocky Point Granite Works, Exeter, Tulare County, Cal.: Granite.
- Roeder, Henry, New Whatcom, Wash.: Sandstone.
- Rogers, Brown & Co., 71 Broadway, New York City: Raw materials used in the manufacture of pig iron.
- Rogers Mining Company, Stokes County, N. C.: Iron ore.
- Rogers, Mrs. L. S., Kern County, Cal.: Ingot of antimony.
- Rogers, O. T., Granite Company, Quincy, Mass.: Granite.
- Rohwer, George, Lewis mine, Telluride, Colo.: Silver, gold, and lead ore.
- Romer Mining Company, Easton, Pa.: Iron ore from Richards mine.
- Romona Oolitic Stone Company, Indianapolis, Ind.: Limestone.
- Rosenheimer, John, Cedar Lake Park, Wis.: Clay, for making brick, accompanied by bricklet.
- Rosenthal, J., Empire City, Kans.: Zinc and lead ore, sphalerite and galena.
- Rosiclaire Mining Company, Rosiclaire, Ill.: Lead ore, sandstone, limestone, fluorite, etc.
- Ruckel, A. D., & Son, Whitehall, Ill.: Stoneware clay, for the manufacture of stoneware, etc.
- Russell, G., Elko, Nev.: Mineral soap.
- Russell Mining Company, Potosi, Washington County, Mo.: Lead ore, galena.
- St. Anthony Mining and Milling Company, Sunset, Boulder County, Colo.: Gold and copper ore.
- St. Bernard Coal Company, Earlington, Ky.: Bituminous coal.
- St. Joe Lead Company, The, Bonnetterre, Mo.: Lead ores, limestone, etc.
- St. Joe Lead Company, St. Louis, Mo.: Lead ore, galena, and concentrates.
- St. Louis Well Machine and Tool Company, St. Louis, Mo.: Well-drilling machine in operation.
- Sagamore Coal Company, Sagamore, Mich.: Bituminous coal.
- Salisbury Mining and Milling Company, Idaho Springs, Colo.: Gold and silver ore, showing bornite.
- Salmon River Mining Company, Contact, Nev.: Copper ore.
- Salt Lake City Onyx Company, Salt Lake City, Utah: Onyx.

- Salt Lake Coal Company, Salt Lake City, Utah: Bituminous coal.
- Sanford, Albert B., Griffith mine, Clear Creek County, Colo.: Silver, lead, copper, and iron ore.
- San Benito Mining Company, New Idria mine, San Benito County, Cal.: Quicksilver ore, cinnabar.
- Sanderson, F., Riddles, Oreg.: Nickel ore, genthite.
- San Diego Marble Company, San Diego marble quarry, San Diego County, Cal.: Marble.
- San Fernando Company, San Fernando, Los Angeles County, Cal.: Sandstone.
- San Francisco and San Joaquin Coal Company, San Francisco, Cal.: Bituminous coal.
- San Francisco Slate Company, Placer County, Cal.: Slate.
- San Francisco Street Improvement Company, Bitumen mine, Ventura County, Cal.: Bituminous rock.
- San Juan Star Mining Company, Silverton, Colo.: Gold and silver ore.
- Sausser, Andre, Caliente Creek, Kern County, Cal.: Silver ore.
- Schmidt, W., Whiteplains, Nev.: Phosphates.
- Schnabel, D. M., Bellevue mine, Placer County, Cal.: Gold quartz.
- Schneider Granite Company, St. Louis, Mo.: Granite.
- Schneider, Louis, Valley Forge mine, Boulder County, Colo.: Telluride gold ore, with native tellurium.
- School of Mines, Columbia University, N. Y.: Scientific publications.
- Schreiber, W. A. H., Webster, N. C.: Nickel and chromic iron ore.
- Schuritzer & Boyer, Churchill County, Nev.: Copper ore.
- Schweyer & Liess, King of Prussia, Pa.: Marble.
- Scientific Publishing Company, The, New York City: Publications—geology, mining, metallurgy, and mineralogy.
- Schlesinger, Ferdinand, Milwaukee, Wis.: Iron ores.
- Scott Brothers, Black Oak mine, Tuolumne County, Cal.: Gold quartz from 300 to 700 foot levels.
- Seranton, Jewett, Summit mine, Shasta County, Cal.: Gold quartz.
- Seager, A. L., Antelope Valley, Los Angeles County, Cal.: Marble.
- Seaton Mining and Milling Company, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Sebewaing Coal Company, Sebewaing, Mich.: Bituminous coal.
- Sellwood, Joseph, Duluth, Minn.: Iron ore from Brotherton mine.
- Semon, Adolph, Meshoppen, Pa.: Bluestone.
- Sharwood, W., Soulsby mine, Tuolumne County, Cal.: Gold quartz, with galena (rich).
- Shasta Mining Company, Mount Shasta mine, Shasta County, Cal.: Silver ore.
- Shawmut Coal Company, St. Marys, Pa.: Bituminous coal.
- Shearer, F. E., Eagle Bird mine, Nevada County, Cal.: Gold quartz.
- Sheriff Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and quartz.
- Sherman, W. A., Salt Lake City, Utah: Gold ores from the Sunshine mines.
- Shockley, W. H., Mount Diablo, Nev.: Gold and silver ore, lead and silver ore.
- Sierra Buttes Gold Mining Company, Uncle Sam mine, Shasta County, Cal.: Gold quartz, \$50 per ton.
- Sills, W. H., Mica Company, Chicago: American mica, natural formation and manufactured products.
- Silver Bow Mining Company, Napa County, Cal.: Cinnabar.
- Silver Dick Mining Company, Oronogo, Mo.: Zinc ore, crystallized sphalerite.
- Silver King Mining Company, Silver King, Utah: Lead and silver ore.
- Silver, Lowry, Corney mine, San Bernardino County, Cal.: Silver and copper ore.
- Silverthorn, G. W., Gdalpom mine, Shasta County, Cal.: Limonite.
- Simpson, Edward, Salt Lake City, Utah: Aluminum earth.

- Sims Coal Company, Sims, N. Dak.: Bituminous coal.
- Sinnamahoning Gold and Copper Company, Sierra County, N. Mex.: Copper ore.
- Slatington Slate Company, Slatington, Pa.: Slate.
- Sloan, R. E., Yeager mine, Black Hills, Ariz.: Copper ore, showing cuprite.
- Sloss Furnace, The, Birmingham, Ala.: Iron ores.
- Sloss Iron and Steel Company, Birmingham, Ala.: Bituminous coal.
- Smith, A. L., Little Chief mine, Inyo County, Cal.: Silver ore; magnetite from Coast Range mine, San Benito County.
- Smith, Chandler, Chandler Smith mine, Shasta County, Cal.: Gold quartz.
- Smith Granite Company, Westerly, R. I.: Granite.
- Smith & McNicol, Addie, N. C.: Kaolin, for manufacture of earthenware, etc.
- Smith, W. T., Elko County, Nev.: Shale.
- Smuggler Union Mining Company, The, Telluride, Colo.: Gold, silver, and lead ore.
- Southern Mining Company, Atlanta, Ga.: Bituminous coal.
- Southern Railway Company, Washington, D. C.: Ores and minerals from North Carolina, Georgia, and Alabama.
- South Eureka Mining Company, South Eureka mine, Amador County, Cal.: Gold quartz.
- South Side Mining and Manufacturing Company, Galena, Kans.: Zinc and lead ores, sphalerite, galena.
- South Spring Mining Company, South Spring mine, Amador County, Cal.: Wall rock.
- South Swansea Mining Company, South Swansea mine, Silver City, Utah: Silver and lead ore.
- Southwestern Coal and Improvement Company, Coalgate, Ind. T.: Bituminous coal.
- Southwest Virginia Improvement Company, Philadelphia, Pa.: Bituminous coal.
- Specie Payment Mining Company, Clear Creek County, Colo.: Gold and silver ore.
- Spring Valley Hydraulic Company, Spring Valley mine, Butte County, Cal.: Wood model of hydraulic sluice box.
- Squier, E. E., & Co., St. Louis, Mo.: Foundry molding sand.
- Staddon, Samuel, Santa Barbara, Cal.: Quicksilver lead.
- Standard Asphaltum Company, Standard mine, Ventura County, Cal.: Crude and refined asphaltum.
- Standard Asphalt Company, San Francisco, Cal.: Crude and refined asphaltum.
- Standard Coal and Coke Company, Newcomb, Tenn.: Bituminous coal, coke.
- Standard Oil Company, 26 Broadway, New York City: Petroleum—The conditions of its occurrence; its products, their uses, and the methods of their distribution.
- Stanley Consolidated Mining Company, Idaho Springs, Colo.: Gold and silver ores.
- Stanstead Granite Quarries, Beebeplain, Vt.: Granite.
- Star Consolidated Mining Company, Mammoth, Utah: Gold, silver, lead, and copper ore.
- Stark & Rolsten, Joplin, Mo.: Zinc ore, disseminated sphalerite in chert.
- State Ore Sampling Company, Evergreen mine, Pine Creek, Gilpin County, Colo.: Gold, silver, and copper ore.
- Steel, T., Oro Mine, Inyo County, Cal.: Silver ore from 750-foot level; gold ore.
- Stein & Boericke, Philadelphia, Pa.: Alloys, and rare minerals used in their manufacture.
- Sterling Coal and Coke Company, Salt Lake City, Utah: Bituminous coal, coke.
- Steubenville Coal and Mining Company, Steubenville, Ohio: Bituminous coal.
- Stevens, B. H., Calico, San Bernardino County, Cal.: Borate of lime and magnesia.
- Stevens Coal Company, Coalburg, W. Va.: Bituminous coal.
- Stevens, H., Calistoga mine, Napa County, Cal.: Clay.
- St. Lawrence Marble Company, Gouverneur, N. Y.: Marble.
- Stockbridge Soapstone Works, Colfax, Placer County, Cal.: Soapstone.
- Stockwell, H. E., Star mine, Fresno County, Cal.: Argentiferous galena.

- Stoiber, Edward G., & Co., Silver Lake mine, Silverton, Colo.: Gold and silver ore.
- Stoiber, G. H., Robert Bonner mine, Silverton, Colo.: Gold and silver ore, showing free gold.
- Stone, W. B., Galena, Kans.: Zinc and lead ores, from Galena and Empire City, Kans.
- Stonycreek Red Granite Company, Stonycreek, Conn.: Granite.
- Storms, W. H., sheep ranch, Calaveras County, Cal.: Limonite.
- Stowe, H., San Bernardino, San Bernardino County, Cal.: Clay.
- Stow, H. P., Gold Bank mine, Butte County, Cal.: Quartz crystals and gold quartz.
- Stump, S. C., Fine Gold mine, Fresno County, Cal.: Gold quartz.
- Sublette, William, Carga Muchacha mine, San Diego County, Cal.: Gold quartz (rich).
- Sullivan, William, Silverton, Colo.: Gold and silver.
- Summit Mining Company, San Bernardino County, Cal.: Gold quartz.
- Sun Dance Mining Company, Silver Trail mine, Senator district, Arizona: Gold, silver, and copper ore.
- Sunset Mining Company, Granby, Mo.: Zinc ore, calamine, and sphalerite.
- Sunset Mining Company, Sunset mine, Kern County, Cal.: Sulphur.
- Sunshine Mining Company, Telluride, Colo.: Gold and silver ore.
- Superior China Clay Company, Chippewa Falls, Wis.: Kaolins, for manufacture of earthenware, etc.
- Sutherland, W. J., Holmes, Nev.: Lead and silver ore.
- Swain, W., Gold King mine, San Diego County, Cal.: Gold quartz.
- Sweet, W. H., Dudley, Pa.: Bituminous coal.
- Sweetwater Coal Company, Rock Springs, Wyo.: Bituminous coal.
- Sykes, C. P., 33 Broadway, New York City: Two onyx slabs and six marble columns furnished for façade to mining space; lithographic stone.
- Sylvester, H., Rocky Glen mine, Nevada County, Cal.: Gold quartz.
- Taft & Dunn, Sterling, Ariz.: Copper ore.
- Taggart & Hall, Gold Bronze mine, San Bernardino County, Cal.: Gold quartz.
- Taylor, R. B., Taylor mine, Death Valley, Inyo County, Cal.: Gold quartz.
- Tehachapi Building and Stone Company, Tehachapi, Kern County, Cal.: Sandstone.
- Teich, Frank, San Antonio, Tex.: Granite.
- Temescal Mining Company, Temescal mine, Riverside County, Cal.: Tin ore.
- Temple, E. S., Emancipation mine, Salina, Boulder County, Colo.: Gold ore, showing tellurium, and ore roasted freeing gold.
- Tennessee Coal, Iron and Railroad Company, Birmingham, Ala.: Iron ores, limonite, and hematite, bituminous coal.
- Tennessee Producers' Marble Company, Knoxville, Tenn.: Marble.
- Texas and Pacific Coal Company, Fort Worth, Tex.: Bituminous coal.
- Texas Briquette and Coal Company, Briquette, Tex.: Bituminous coal.
- Texas Consolidated Mining Company, Texas mine, Shasta County, Cal.: Gold quartz.
- Texas Mining Company, Los Angeles County, Cal.: Rich gold quartz.
- Thacker Coal and Coke Company, Thacker, W. Va.: Bituminous coal, coke.
- Thies, J., Humboldt, Nev.: Sulphur, crude and refined.
- Thompson Mining Company, Deadwood, S. Dak.: Gold ore.
- Thompson Run Coal Company, Newcastle, Pa.: Bituminous coal.
- Thorp & Son, Mountain View, Nev.: Antimony.
- Thorp, H. T., Terre Haute, Ind.: Shale, for manufacture of paving and vitrified brick.
- Tiffany & Co., Union Square, New York City: American gems in the rough, precious and semiprecious.
- Tiger Mining and Milling Company, Silverton, Colo.: Gold and silver ore.
- Timber Line Mining Company, Ward, Colo.: Pyritic gold ore.

- Tinsley, C. D., Prince George County, Va.: Ocher.
- Tomboy Gold Mines Company, Telluride, Colo.: Gold ore.
- Trade Dollar Mining and Milling Company, Silver City, Idaho: Silver ore, showing argentite.
- Traupell, Eugene, Dolly Varden mine, Sunset, Colo.: Chalcopryite containing gold values.
- Treedley, J. K., & Sons, Philadelphia, Pa.: Marble from Vermont.
- Tregarden Brothers, Yellville, Ark.: Zinc ore blende from White Eagle mine, Marion County, Ark.
- Troop, William, Shingle Springs, Eldorado County, Cal.: Yellow ocher.
- True Blue Marble Company, Rutland, Vt.: Marble.
- Tuck, J. H. L., Oro Fino mine, Eldorado County, Cal.: Gold quartz.
- Tungsten Mining Company, Omaha, Nebr.: Wolframite from Hill City, S. Dak.
- Turner Brick Company, West Chicago, Ill.: Clay for making of brick, accompanied by bricklet.
- Turner Coal, Coke and Mining Company, Ferris, Pa.: Bituminous coal, coke.
- Tyler, Charles M., King mine, San Bernardino County, Cal.: Silver ore (rich).
- Tyro Mining Company, Tyro mine, Nevada County, Cal.: Gold quartz (very rich).
- Tyson Mining Company, Eldorado County, Cal.: Chromic iron ore and cinnabar.
- Ulster Bluestone Company, Malden, N. Y.: Sandstone.
- Uncle Sam Mining Company, Uncle Sam mine, Shasta County, Cal.: Gold quartz.
- Union Copper Company, Goldhill, N. C.: Copper ore.
- Union Glee Club of San Francisco, Reward mine, Nevada County, Cal.: Gold quartz, \$1,200 per ton.
- Union Gold Mining Company, Cripplecreek, Colo.: Gold ore, phonolite, fluorite, showing tellurium and galena.
- Union Iron Works, San Francisco, Cal.: Working model of a complete California gold quartz mill.
- Union Lead Company, St. Louis, Mo.: Cobalt, nickel, and lead ores, galena and other sulphides.
- Union Oil Company, San Francisco, Cal.: Asphalt.
- Union Pacific Company, Omaha, Nebr.: Bituminous coal.
- Union Sandpaper Company, Roxbury, Conn.: Garnet crystals.
- Union Soapstone Company, Boston, Mass.: Soapstone.
- Union Sulphur Company, Sulphur, La.: Sulphur.
- United Globe Mining Company, Globe, Ariz.: Copper ores, with malachite, azurite, and chrysocolla.
- United States Marble Company, Spokane, Wash.: Onyx and serpentine.
- United States Mining Company, Bingham, Utah: Iron pyrite crystals.
- Universal Company, Chicago: Bituminous coal.
- University of Chicago, Chicago, Ill.: Collection of minerals included in Group III of Dana's classification. Collected by J. P. Iddings.
- University of Wyoming, Laramie, Wyo.: Block of soda, mirabilite; from Downey deposits.
- Updike, N. B., Lonegum, Va.: Alum rock.
- Utah Mining Company, Fishsprings, Utah: Silver and lead ore.
- Utica Mining Company, Utica mine, Calaveras County, Cal.: Wood model of mine timbering.
- Van Houten, J., Raton, N. Mex.: Gold dust and nuggets.
- Van Nostrand, D., & Co., New York: Publications upon geology, mining, metallurgy and mineralogy.
- Verd-Antique Marble Company, Chicago: Georgia verd-antique marble.
- Verdenal, D. F., Rainbow mine, Inyo County, Cal.: Silver ore (rich).
- Vermont Marble Company, Proctor, Vt.: Marble.

- Victor Coal Company, Denver, Colo.: Bituminous coal.
- Victor Marble Company, Victor, San Bernardino County, Cal.: Marble.
- Vilas Mining Company, Breckinridge, Colo.: Lead ore.
- Virginia Coal and Coke Company, Gayton, Va.: Bituminous coal.
- Virginia Iron, Coal and Coke Company, Bristol, Tenn.: Iron ores from Virginia and Tennessee mines; coal and coke.
- Voy, C. D., Rabbit Creek, Sierra County, Cal.: Model of gold nugget, value \$3,240.50.
- Vulcanized Fiber Company, Eureka mine, Calaveras County, Cal.: Yellow ocher.
- Wagner, C. M., Dunseith, N. Dak.: Ballast clay, for railway ballast, showing prepared product.
- Walsh, Thomas F., Camp Bird mine, Ouray, Colo.: Gold ore, mine producing \$5,000 per day.
- Wampum Run Coal Company, Wampum, Pa.: Bituminous coal.
- Ward & Capito, Watsonville mine, Bradshaw Mountains, Arizona: Gold, silver, and lead ore.
- Ward, E. B., Little Lake, Cal.: Sulphur, crude.
- Ward, W. S., Denver, Colo.: Ores from Cripple Creek.
- Warsaw Blue Stone Company, Warsaw, N. Y.: Bluestone.
- Washington Junction Stone Company, Point of Rocks, Md.: Mosaic marbles and brownstone.
- Waterman, W. S., Waterman quarry, San Diego County, Cal.: Granite.
- Watertown Brick Company, Watertown, N. Y.: Clay for making brick, accompanied by bricklet.
- Watts & Heikes, Boulder, Colo.: Tellurium crystals.
- Watts & Melton, Brown Bearmine, Trinity County, Cal.: Gold quartz.
- Webber, F., Alum Creek, Nevada: Gold ore.
- Webb Granite and Construction Company, Worcester, Mass.: Granite from New Hampshire.
- Webb, I. A., Deadwood, S. Dak.: Collection of Black Hills ore.
- Wedge Mining Company, Wedge mine, Ouray, Ouray County, Colo.: Silver lead ore.
- Weir, John, Lead and Zinc Company, Mossy Creek, Tenn.: Zinc blende and galena.
- Wells, George A., Greatfalls, Mont.: Sapphires and other gems in the rough.
- Wells, Heber C., Salt Lake City, Utah: Collection of ores representative of Utah's mineral wealth.
- Welsbach Light Company, Broad and Arch streets, Philadelphia, Pa.: Monazite sand.
- Western Coal and Mining Company, St. Louis, Mo.: Bituminous coal.
- Westfield Marble and Sandstone Company, Westfield, Mass.: Serpentinic marble.
- Westmoreland Coal Company, The, Philadelphia, Pa.: Collection of coals.
- Weston, S. G., Elko County, Nev.: Copper ore.
- West Virginia Central and Pittsburg Railway Company, Piedmont, W. Va.: Bituminous coal.
- Wetherby, A. G., Mitchell County, N. C.: Iron ore.
- Wheeler & Hurlbert, Ouray County, Colo.: Silver lead ore.
- Whipsaw Mining Company, Whipsaw, Castle Creek, Ariz.: Gold and copper ore.
- White Breast Fuel Company, Chicago: Bituminous coal.
- White, Peter, Marquette, Mich.: Gold from Michigan gold mine.
- Wickford & Snapp, White Star, Yavapai County, Ariz.: Gold and silver ore.
- Wick, H. K., & Co., Buffalo, N. Y.: Bituminous coal.
- Wiley, J., & Son, New York: Publications on mineralogy, etc.
- Wilkinson Coal and Coke Company, Wilkinson, Wash.: Bituminous coal, coke.
- Williams & Company, Boston, Mass.: Soapstone from Vermont and New Hampshire.
- Williams, C. K., & Co., Lehigh County, Pa.: Iron oxides, red and yellow, and other mineral paints.

- Williams, David, Company, New York: Publication, The Iron Age, having relation to the iron industry.
- Williams, E. W., Central City, Colo.: Gold ore.
- Williams, J. A., Gunsight Mine, Inyo County, Cal.: Silver ore.
- Williams, John R., Buckingham, Va.: Slate.
- Williams, W., Look Out mine, Trinity County, Cal.: Gold quartz.
- Willis, G. F., Sacramento mine, Mono County, Cal.: Gold quartz.
- Wilmington Star Mining Company, Coal City, Ill.: Bituminous coal.
- Wilson, F. J., Lewisburg, Ohio: Limestone.
- Wilson, W., Pinegrove, Nev.: Gold, silver, and lead ore.
- Windsor Lead and Zinc Company, Empire City, Kans.: Zinc and lead ore, sphalerite and galena.
- Winslow, J. H., Riddles, Oreg.: Nickel ore, showing mineral genthite.
- Winsor, Mulford, Cibola quarry, near Yuma, Ariz.: Building stone.
- Wirth & Hulings, Wirth mine, Ward, Colo.: Gold ore.
- Wise, A., Humboldt County, Nev.: Native sulphur.
- Withersbers, Sherman & Co., Port Henry mines, Port Henry, N. Y.: Iron ore.
- Wohler, C., Edison mine, Nevada County, Cal.: Copper sulphide.
- Wood, H., & Bros., Adelaide mine, Calaveras County, Cal.: Gold quartz.
- Wood, H. E., Louisville mine, Leadville, Colo.: Crystallized pyrites.
- Wood, Henry E., Denver, Colo.: Galena, iron pyrite, and feldspar crystals.
- Woodhull, S. D., Inyo County, Cal.: Quartz crystal, calcites, silver ore, silver-lead ore, copper ore with cuprite.
- Woods Investment Company, Colorado Springs, Colo.: Collection of gold ores.
- Wood, T. S., Lillian Mine, Leadville, Colo.: Native gold, crystals and leaf.
- Woodward Iron Company, Birmingham, Ala.: Red iron ores.
- Woody, William, Cincinnati mine, Merced County, Cal.: Cinnabar.
- Work Mining and Milling Company, Cripple Creek, Colo.: Gold ore, fluorite, and quartz.
- Wormser Filter Plate Company, Carthage, Mo.: Tripoli.
- Wright, J. D., Sonora, Cal.: Clay.
- Wyatt, J. T., Faith, N. C.: Granite.
- Wyoming, State of, engineering department: Geological and Engineering reports.
- Wythe Zinc and Lead Company, Austinville, Va.: Zinc-lead ore, galena, smithsonite, and sphalerite, concentrates.
- X-Ray Mining Company, Granby, Mo.: Lead and zinc ores, galena, calamine, sphalerite, greenockite and tallow clay, chert and limestone.
- Yankee Girl Mining Company, Red Mountain, Colo.: Silver ore, bornite.
- Yellow Jacket Mining Company, Comstock, Virginia City, Nev.: Sulphurets.
- Yerington, J. A., Carson City, Nev.: Ores and minerals representing mineral wealth of Nevada.
- Yost, John, Junction mine, Tuolumne County, Cal.: Gold quartz.
- Young, B. H., Gold Band mine, Deep Creek, Utah: Copper silver ore.
- Young, C. W., Calais, Me.: Granite.
- Young, Mrs. J., Gold Chief mine, San Bernardino County, Cal.: Gold quartz.
- Yreka Journal Publishing Company, Yreka, Cal.: Sandstone.
- Zadig & Co., S. F., Zadig mine, Ventura, County, Cal.: Asphaltum rock.
- Zanesville Stoneware Company, Zanesville, Ohio: Clay for manufacture of stoneware, etc.
- Zenobia Mining Company, Cripple Creek, Colo.: Gold ore, quartz with tellurium, value, \$14,000 per ton.
- Zimmerman, Dr., Silverton, Colo.: Tungsten ore, wolframite, scheelite, hubnerite.
- Zuni Mining Company, Silverton, Colo.: Gold and silver ore.

CLASS 64.—*Metallurgy.*

- American Steel and Wire Company, New Jersey and New York City: Manipulation of iron and steel from the ores.
- American Steel Hoop Company, Pittsburg, Pa.: Exhibits illustrating the manufacture of iron and steel.
- American Tin Plate Company, Chicago: Tin and terne plates, fine steel sheets, billet to the finished material.
- Ansonia Brass and Copper Company, Ansonia, Conn.: Copper bars, sheets of rolled and polished copper.
- Argillo Works, Carbon Cliff, Ill.: Refractory clay for metallurgical use.
- Bethlehem Steel Company, South Bethlehem, Pa.: Photographs illustrating equipment for working steel in large masses. Armor plates after being tested.
- Boston and Colorado Smelting and Refining Company, Richard Pearce, manager, Denver, Colo.: Roasted mattes.
- Boston and Colorado Smelting Company, The, Argo, Colo.: Products showing the different stages of process employed in smelting.
- California Paris Commission, San Francisco, Cal.: Model quartz stamp mill.
- Carnegie Steel Company, Pittsburg, Pa.: Drawing of Duquesne blast furnace; records of practice; photographs.
- Chateaugay Iron Ore Company, Plattsburg, N. Y.: Series of products of magnetic concentration.
- Christy Fire Clay Company, St. Louis, Mo.: Refractory clay for crucibles, etc., for metallurgical purposes.
- Colorado Fuel and Iron Company, Denver, Colo.: Pig iron and steel ingots, billets, rails, nails, and spikes; drawings and photographs of equipment.
- Copper Queen Mining Company, Bisbee, Ariz.: Copper, furnace products, and by-products made in reduction of ores.
- Crescent Steel Company, Pittsburg, Pa.: Crucible and open-hearth steel and applications in the arts. Tool and die steel, polished rods, fine wire, hot-rolled sheets, bright cold-rolled strips, band-saw blanks, forgings, springs.
- De La Mar Mining Company, Mercur, Utah: Products showing process of treating the base and oxydized ores.
- Denver Fire Clay Company, Denver, Colo.: Refractory clay for the manufacture of crucibles, etc., for metallurgical purposes.
- Department of Mines, Commission to Paris, Chicago: Methodical collection of technical metallurgy, ores, products, charts, drawings, and photographs.
- Detroit Copper Mining Company, Morenci, Ariz.: Copper furnace products, copper matte, refined copper.
- Des Loges Lead Company, Des Loges, Mo.: Lead and furnace products, reverberatory process.
- Dickinson Fire and Pressed Brick Works, Dickinson, N. Dak.: Refractory clay for metallurgical purposes.
- Edison Ore Concentrating Company, Orange, N. J.: Iron ore concentration represented by specimens of raw material and intermediate product.
- Franklin, H. H., Manufacturing Company, Syracuse, N. Y.: Specimens illustrating fine unfinished iron casting; a novel and unique method.
- Graphic Mines and Smelting Works, The, Magdalena, N. Mex.: Ores and fluxes from one mine.
- Great Falls Fire Brick Company, Great Falls, Mont.: Refractory clay for the manufacture and use of metallurgical work.
- Howe, Prof. H. M., Columbia College, New York City: Steel fractures, showing structure of steel by etching.

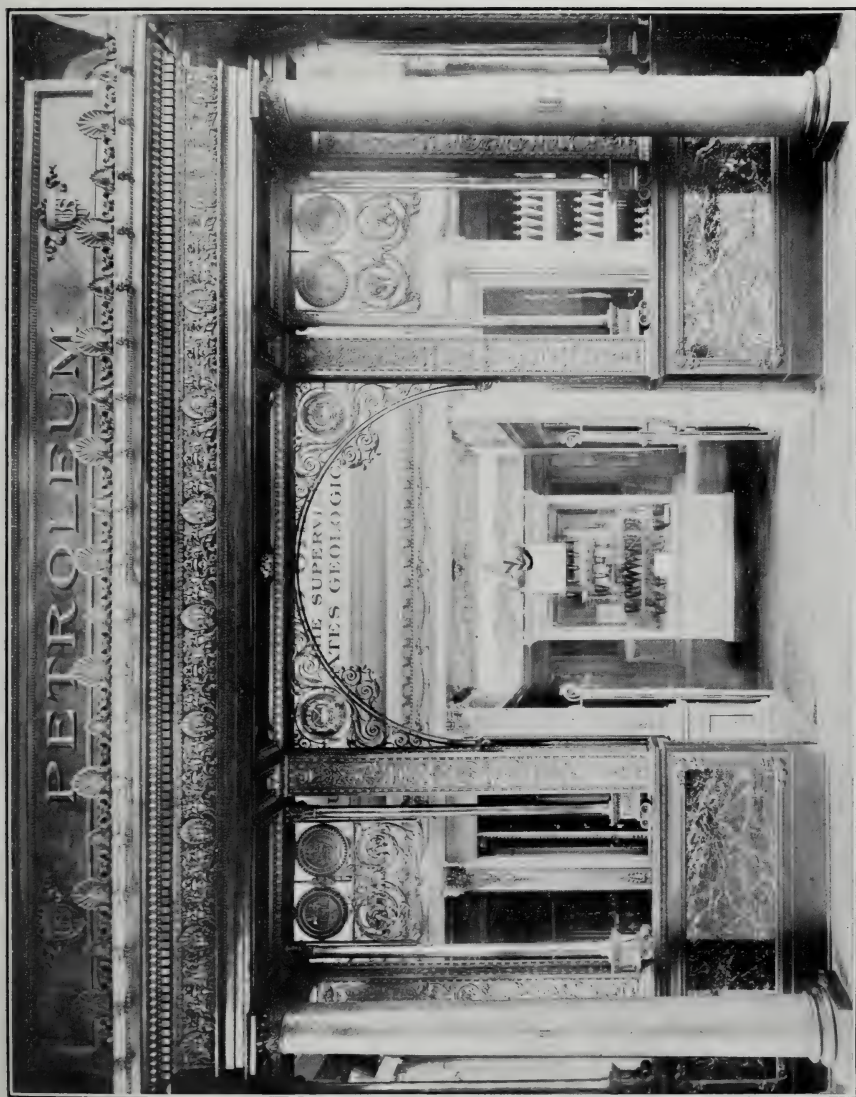
- Illinois Steel Company, Chicago: Blast-furnace model—iron and steel in ingots, bars, sheets, or finished products.
- Mackintosh, Hemphill & Co., Pittsburg, Pa.: Drawings illustrating the construction of large improved "blooming train."
- Morris, E. E., & Co., Cincinnati, Ohio: Bar iron and steel.
- New Jersey Zinc Company, Franklin Furnace, N. J.: Samples illustrating the extraction of zinc from its ores.
- Ohio Fire Brick Company, Oakhill, Ohio: Refractory clay for metallurgical use.
- Oliver, Greenwood K., 1214 John street, Baltimore, Md.: Special antifricition metal, called "Silverine Babbitt," for bearings.
- Pearce, Richard, manager Boston and Colorado Smelting and Refining Company, Denver, Colo.: Roasted mattes from Pearce turret furnace.
- Pencoyd Iron Works, Philadelphia, Pa.: Structural and axle steel, photographs and statistics of steel manufacture.
- Pittsburg Reduction Company, Pittsburg, Pa.: Aluminum extraction from the minerals cryolite and bauxite; aluminum ingots, manufactured aluminum.
- Roebliug's, John A., Sons Company, Trenton, N. J.: Process of manufacture of wire, iron, steel, copper, and bronze.
- Rogers, Brown & Co., 71 Broadway, New York City: Specimens of every class of pig iron made in America.
- Stirling-Firth Company, Pittsburg, Pa.: Steel armor-piercing projectiles after ballistic test, with details of tests.
- Tamarack Mining Company, Hancock, Mich.: Specimens illustrating the extraction of copper from copper ores.
- Taylor Iron and Steel Company, High Bridge, N. J.: Cast-steel shells after test, with details of test, statistics, and complete data.
- Taylor Iron and Steel Company, New York City: Mine wheels, railroad crossings, stamps, coal crusher, etc.
- United Globe Mining Company, Globe, Ariz.: Copper furnace products, copper matte, refined copper.
- Valentine, M. D., & Son Company, Woodbridge, N. J.: Fire brick and cupola blocks.
- Ward Pyritic Smelting Company, Ward, Colo.: Iron matte and slag.
- Wellman Seaver Engineering Company, Cleveland, Ohio: Drawings illustrating the manufacture of iron and steel.

CLASS 65.—*Metal working.*

- American Steel and Iron Manufacturing Company, Reading, Pa.: Bolts, screws, rivets, punches, nuts, turnbuckles, spikes.
- American Steel and Wire Company, New Jersey and New York City: Wire ropes, nails, and all material used by the hardware trade.
- American Tin Plate Company, Chicago: Metal working, and manufactured articles of tin.
- Atkins, E. C., & Co., Indianapolis, Ind.: Steel saws.
- Atlas Tack Company, Taunton, Mass.: Tacks, nuts, bolts, brads, small nails.
- Bommer Brothers, 257-271 Classon avenue, Brooklyn, N. Y.: Spring hinges.
- Colorado Fuel and Iron Company, Denver, Colo.: Merchant iron and steel, railroad supplies, steel plates, etc.
- Copper Queen Consolidated Mining Company, 99 John street, New York City: Brass and copper bars, special shapes, tubing.
- Crane Company, Chicago: Tools for plumbers, and steam and gas fitters. Fittings for steam engines.
- Devlin, Thomas & Co., Philadelphia, Pa.: Saddlery hardware, buckles, rings, hooks, hinges, etc.



H-8. SYSTEMATIC MINERALOGY OF THE UNITED STATES; EXHIBIT OF INSTITUTIONS OF LEARNING, DEPARTMENT OF MINING AND METALLURGY.



H-10. FRONT VIEW PETROLEUM SECTION; STANDARD OIL COMPANY, DEPARTMENT OF MINING AND METALLURGY.

- Eagle Lock Company, Terryville, Conn.: Locks, padlocks, keys, and small hardware.
- Enterprise Manufacturing Company, Philadelphia, Pa.: Special patented hardware.
- Franklin, H. H., Manufacturing Company, Syracuse, N. Y.: Castings; finished parts made by a process of casting which avoids machine work.
- Hibbard, Spencer, Bartlett & Co., Chicago: Household enameled ware and metallic weather strips.
- Hibbard, Rodman, Ely Safe Company, 253 Broadway, New York City: Safe in manganese steel, proof against burglars or mobs.
- Illinois Steel Company, Chicago: Metal plates, flanged, stamped, cut, decorated; drawn tubes and piping in iron.
- Ingersoll-Sergeant Drill Company, New York City: Equipments for and methods used in foundries of bronze, brass, and malleable iron, etc.
- Irwin Auger Bit Company, Wilmington, Ohio: Steel augers and bits.
- Jorss, A. F., 315 Thirteenth street NW., Washington, D. C.: Railings in iron.
- Kearney & Foot Company, 100 Reade street, New York City: Files and rasps.
- Manhattan Brass Company, New York: Castings and railings in brass.
- Metallic Flexible Tubing Company, Philadelphia, Pa.: Metallic flexible tubing.
- Morris, J. B., Foundry Company, Cincinnati, Ohio: Iron castings.
- North Brothers Manufacturing Company, Philadelphia, Pa.: Spiral screw-drivers, drills, and hardware specialties. Photograph of works.
- Ohio Tool Company, Auburn, N. Y., and Columbus, Ohio: Mechanics' wood-working tools.
- Oneida Community, Limited, Niagara Falls, N. Y.: Weldless chains.
- Peck & Snyder, 126 Nassau street, New York City: Ice skates and roller skates.
- Phoenix Horseshoe Company, Poughkeepsie, N. Y.: Horse and mule shoes.
- Pike Manufacturing Company, Pike Station, N. H.: Scythe stones, oil stones, razor hones, emery stones, polishing powder, corundum, etc.
- Plumb, Fayette R., Frankford, Philadelphia, Pa.: Hammers, hatchets, cleavers, adzes, axes, bush hooks, picks, and mattocks.
- Roebbling's, John A., Sons Company, Trenton, N. J.: Wire, wire rope, bridge cables, electrical conductors, model of Brooklyn suspension bridge.
- Shelton Company, The, Shelton, Conn., and 64 Reade street, New York City: Tacks, small nails, bolts.
- Standard Caster and Wheel Company, 318 East Twenty-third street, New York City: Ball-bearing furniture casters.
- Stanley Rule and Level Company, New Britain, Conn.: Carpenters' tools.
- Stanley Works, The, New Britain, Conn., and 79 Chambers street, New York City: Builders' hardware.
- Stein & Boericke, Philadelphia, Pa.: Alloys of tungsten and other metals.
- Stover Manufacturing Company, Freeport, Ill.: Builders' hardware.
- Taylor Iron and Steel Company, New York City: Burglar-proof safes, made of cast manganese steel.
- Tyler, The W. S., Company, Cleveland, Ohio: Ornamental gratings. Employed in the construction of the national pavilion.
- Williams, C. K., & Co., Lehigh County, Pa.: Red and yellow oxides of iron, and other mineral paints.
- Williams, J. H., & Co., Brooklyn, N. Y.: Drop forgings of iron, steel, bronze, copper, aluminum; wrenches; hoist hooks, eyebolts, parts for machine tools, engines, cycles, firearms, automobiles, typewriters.
- Winslow Brothers Company, The, Chicago: Wrought-iron portcullis gateway and adjoining electric bronze columns forming central entrance United States exhibit of mines and metallurgy.
- Yale & Towne Manufacturing Company, The, New York City: Builders' hardware, employed in the construction of the national pavilion.

DIRECTOR'S NARRATIVE, DEPARTMENT OF MINING AND METALLURGY.

CHICAGO, ILL., *January 16, 1901.*

SIR: In accordance with your instructions of August 25, 1900, I have the honor to submit a report of the operations of and results obtained by your department of mining and metallurgy.

I was appointed director of the department, having in charge Group XI of the French classification, October 15, 1898, while accompanying the Commissioner-General on his initial visit to Paris.

The special commissioner for the United States to Paris, Hon. Moses P. Handy, had received from the Exposition authorities, according to his final report made to the President of the United States, 5,229 square feet of ground floor space and 2,627 square feet of gallery space in the palace of mines on the Champ de Mars for the occupation of the United States with an exhibit representative of the mining and metallurgical industries of the country.

This area being discouragingly insufficient for any adequate presentation of these great industries, the Commissioner-General, as a result of unusual effort, succeeded in acquiring 1,820 square feet immediately adjoining the original allotment. Subsequently and about six months thereafter as the result of the untiring efforts of the assistant commissioner-general a further grant of 2,347 square feet was acquired, which was early in the spring of 1900 supplemented by a few square feet and a subsidiary rear entrance affording direct connection with the gallery space above.

The final amount of exhibiting area thus secured for the department was 12,023 square feet, which was most favorably located, with a frontage of 169 feet upon a main aisle largely uncovered by bridges or galleries and surrounded by the space occupied by France and allotted to important countries of Europe. Only two other countries visiting Paris had acquired an equal amount of space—Russia and Germany. And in this view of the case no dissatisfaction could be found with the action of the French authorities, nor could it be held for a moment that any discrimination had been made against this country.

However this may be, the entire allotment was most inadequate and might easily have been occupied by the ore exhibits of any one section

of the United States or by the mining machinery of any producing firm. It was determined as the result of much consideration to devote the entire space in the mining palace to an exhibit of the mineral and metallurgical resources of the United States, and to exhibit machinery and processes, in so far as they could be obtained for that purpose, at Vincennes. Space for this latter purpose was obtained through the liberality of the director of the department of machinery in the machinery spaces on the Champ de Mars and in the special United States building erected at Vincennes, also at several separate points in the park adjacent to the United States building, where individual displays were erected.

For the work in the palace of mines it became immediately apparent that the most rigid standard of selection and classification must be adopted and executed in the preparation of exhibits, and it was determined that instead of seeking the cooperation of States and districts, or inviting contributions of museums in the gathering of mineral products of the United States, the collection would be made by direct representatives of the Commissioner-General in the various fields of production and by individual selection and solicitation. And so for metallurgy, in lieu of allotting space to individual metallurgists or metallurgical products, it was deemed advisable that a special agent of the Government should make a technical and comprehensive though condensed selection for the department. This latter plan was adopted except in the case of the four more important industries—iron, copper, tin, and petroleum.

To present products so tremendous in tonnage, value, and geographical distribution, special divisions were established for systematic mineralogy, ores, coal, building and ornamental stone, clays, and sundry industrial minerals.

Heretofore and at all previous expositions hardware had been considered as properly classified under the general head of manufactures, while the term "metallurgy" included only objects showing the condition of the metal after its extraction from the ore, and while yet untouched by the manufacturer, such as the bar, the sheet, the billet, the ingot, the wire, the tube, etc. But in the French classification provision for the exhibition of what is commonly called "hardware" was made only under the class "minor metallurgy."

It was impossible to locate these exhibits other than in the gallery, and upon the net area of 2,627 square feet it became necessary to undertake to condense one of the most important and extensive subindustries of the United States.

No systematic collection of the minerals of a country has ever been made at any previous exposition, and perhaps no feature of the work of your department in charge of Group XI attracted more attention than this.

The groups provided by Dana's Mineralogy were adopted as a guide, and through the professional generosity of individuals connected with different institutions of learning and the pecuniary generosity of individuals interested in education, a corps of distinguished scientists made the collection, according to Dana's scheme, of minerals enumerated therein having occurrence in the United States. The names of the institutions and the honorary mineralogists who took part in the work of assembling these materials, and the patrons who aided with funds, are as follows:

Native elements.—Dana classification, Group I, Michigan Schools of Mines; honorary mineralogist, H. T. Mercer; special patron, board of trustees.

Sulphides, etc.—Group II, Colorado College, Colorado; honorary mineralogist, Rufus M. Bagg, jr.; patron, Hon. Henry Wolcott.

Sulpho salts, haloids, salts of organic acids, hydrocarbons, etc.—Groups III, IV, VII, and VIII, Cornell University; honorary mineralogist, A. C. Gill; patron, department of education, United States Commission.

Oxides.—Group V, Princeton University, New Jersey; honorary mineralogist, E. R. Hewitt; patron, M. Taylor Pyne.

Oxygen salts, including carbonates, phosphates, etc.—Portion of Group VI, Massachusetts Institute of Technology; honorary mineralogist, W. O. Crosby; patron, Massachusetts State board of commissioners.

Oxygen salts, including silicates, sulphates, etc.—Portion of Group VI, Chicago University; honorary mineralogist, J. P. Iddings; patron, C. K. G. Billings.

Crystals of United States minerals, illustrating crystallography.—Field Columbian Museum; honorary mineralogist, O. C. Farrington; patron, W. J. Chalmers.

It seemed but fair in obtaining the contributions of knowledge, money, and time essential to execute the above plan that the department should agree that each of the seven collections thus secured should at the end of the Exposition be delivered to and become the property of the institution whose representative had collected it.

The scheme of dividing the work of locating and acquiring for the general exhibit, the collection of ores, certain industrial minerals, building stone, coals, clays, etc., resulted in the creation of the following sections and the appointment of the following representatives of the department, who commenced their labors early in 1899:

Ores.—Victor C. Heikes, special agent, Colorado.

Building and ornamental stones.—Myron L. Fuller, honorary special agent, Massachusetts School of Technology.

Iron ores.—Charles Kirchhoff, honorary special agent, editor of the Iron Age.

Clays.—Prof. Charles F. Binns, honorary special agent, Trenton, N. J., Industrial School.

Coals and cokes.—Frederick E. Saward, honorary special agent, editor of the Coal Trade Journal.

Zinc and lead ores and metallurgical products.—Henry W. Nichols, honorary special agent, Field Columbian Museum.

Technical collection of metallurgical products and processes.—L. G. Laureau, honorary metallurgist.

Statistics and publications relative to geology, to underground topography, mineralogy, the working of mines, etc.—R. E. Booraem, honorary librarian.

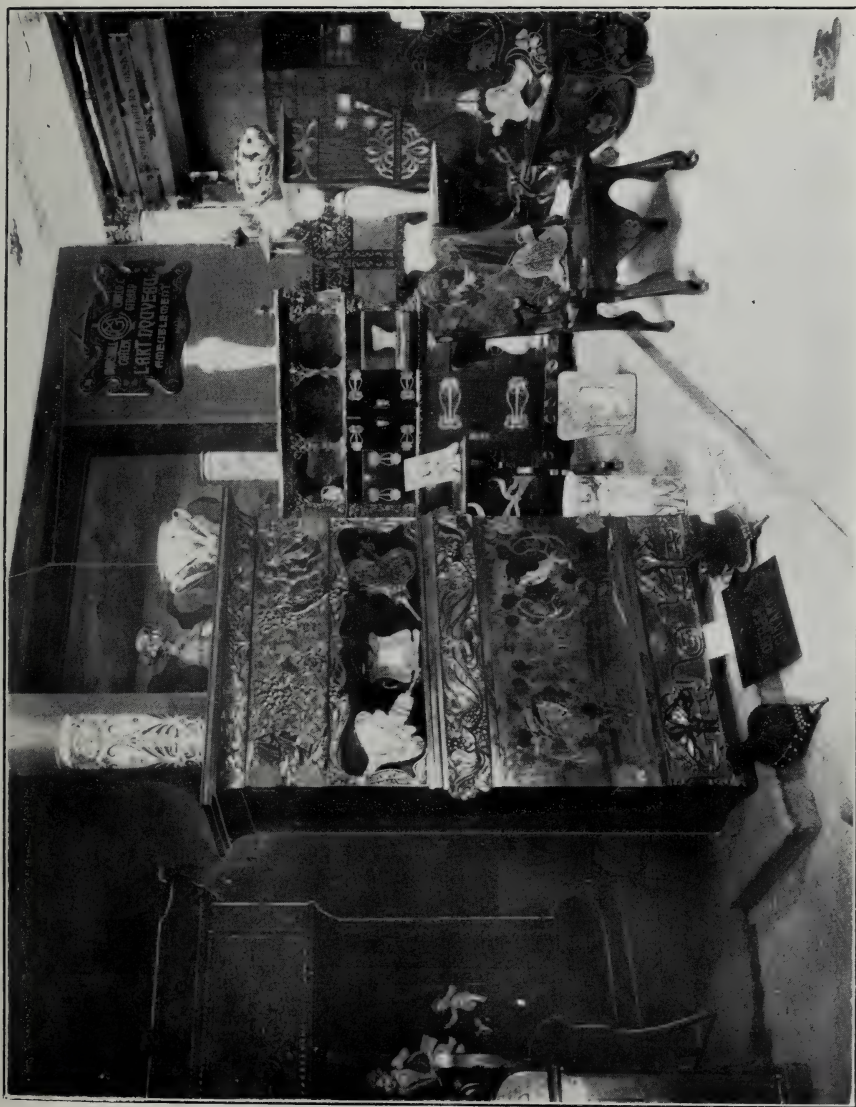
It is a particular pleasure to state in this connection, as conferring additional credit on the many experts who were engaged in securing and perfecting the important collection which made up the exhibit, that few of them received any personal compensation, either by way of salaries or honorariums, for their constant, enthusiastic, and intelligent efforts. Reward came to them doubly, however, in the commendation which their work received at all hands and the recognition obtained from jurors in the final review of the Exposition.

The result of this organization and of the system of cooperation adopted equaled, at least, anticipation. The complete exhibit, as finally installed, elicited the commendation of all who inspected it. And its economic and scientific value and completeness, the unique plan by which it was gathered together, and the impartiality with which this great basic industry of the United States was presented, were attested by hundreds of intelligent and competent critics from all over the world, and the stamp of generous approval was placed upon the work by those having knowledge of the subject, from the producing country.

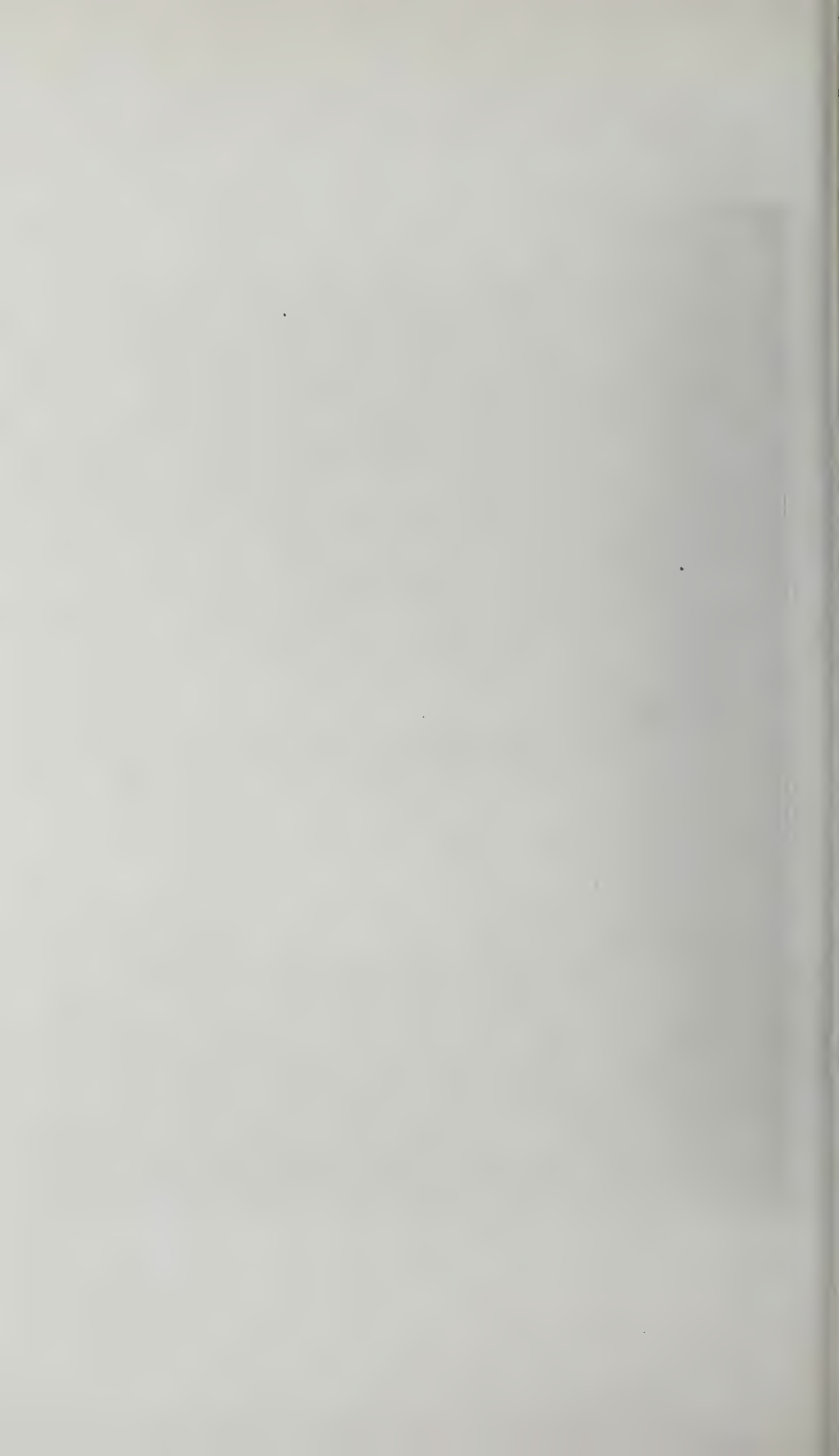
Following is the roster of individuals, who at different times and for the full or lesser periods shared in the work of soliciting, collecting, transporting, and installing the exhibit:

Name.	Service.	Date of appointment.	Date of retirement.	Salary.	Ex-penses.
F. J. V. Skiff	Director	Aug. 23, 1898	.....	\$3,000	.....
W. S. Ward	Assistant director	Mar. 23, 1899	.....	1,600	.....
		Sept. 15, 1899	.....	2,000	.....
		Mar. 1, 1900	Aug. 1, 1900	2,600	.....
Victor C. Heikes	Honorary special agent	Apr. 8, 1899	July 31, 1900		p. d. \$5
	Assistant director	Aug. 1, 1900	Nov. 3, 1900	2,300	.....
	Acting director	Nov. 3, 1900	Feb. 28, 1901	2,300	.....
H. W. Nichols	Honorary special agent	Apr. 14, 1899	Apr. 14, 1900		.....
M. L. Fuller	do	June 15, 1899	do .....		.....
Ch. Kirchhoff	do	do	Nov. 11, 1900		.....
F. E. Seward	do	July 1, 1899	Apr. 14, 1900		.....
L. G. Laureau	do	June 3, 1899	Nov. 30, 1900		.....
W. O. Crosby	do	June 15, 1899	Apr. 14, 1900		.....
H. T. Mercer	do	July 1, 1899	do .....		.....
R. M. Bagg, jr.	do	do	do .....		.....
E. R. Hewitt	do	do	do .....		.....
J. P. Iddings	do	June 1, 1899	do .....		.....
R. E. Booraem	do	July 1, 1899	Jan. 1, 1901		.....
C. F. Binns	do	June 1, 1899	Apr. 14, 1900		.....
A. C. Gill	do	Nov. 22, 1899	do .....		.....
O. C. Farrington	do	Oct. 15, 1899	Apr. 30, 1900		.....
J. S. Woodruff	Entire work	Dec. 20, 1899	Jan. 1, 1901		225
A. N. Winchell	do	Feb. 13, 1900	Aug. 1, 1900	600	.....
J. Manifold	Clerk	Feb. 13, 1899	Mar. 8, 1900	900	.....
		Dec. 8, 1898	Dec. 15, 1900	720	.....
R. B. Tabor	do	Apr. 1, 1900		1,020	.....
P. L. Bowen	do	May 1, 1899	Feb. 15, 1900	900	.....
J. S. Ward	Interpreter	Apr. 1, 1900	Sept. 1, 1900	360	.....
C. H. Toll	Messenger	do	June 15, 1900	480	.....

In the month of May, 1899, a warehouse was rented in Chicago, and in the month of October, 1899, a room in a warehouse was rented in New York City, both originally secured for the massing of the exhibits of the mining department, but ultimately used by several other departments of the Commission for similar purpose, proving of great convenience and utility.



I-12. INSTALLATION OF FURNITURE AND INTERIOR DECORATIONS, VARIED INDUSTRIES SECTION, ESPLANADE
DES INVALIDES.





I-14. SECTION OF FURNITURE INSTALLATION, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.

The gentlemen who had accepted their share of the task of collecting the mineral and metallurgical products began their work, according to special plan determined upon in each instance, immediately upon their appointment. Generally speaking, their work was prosecuted up to the date of the sailing of the transport *Prairie* with the Government exhibits, on December 3, 1899. Of course, in the case of the honorary special agents their individual equipment in experience and knowledge, as well as the conditions under which they accepted their assignments, practically relieved the head of the department from responsibility after the scope and method of each had been agreed upon. This was especially true of the classified mineral collections, but it also applied to the technical metallurgy, coals and coke, the iron, the lead and zinc, the stone, the clays, the literature, etc.; and in this connection it may be stated that in no instance was there the least feeling of uneasiness as to the outcome on the part of the department, and no expression of personal and official gratitude that might be recorded would be excessive, in the opinion of your director of mines, as indicating the most grateful acknowledgment of the services of these gentlemen. The special agent of the department for the collection of the ores and economic minerals for the United States, other than those mentioned above, Mr. Victor C. Heikes, was attached more intimately to the Chicago headquarters, and reported regularly the progress made. The three points of excellence in this work will be observed by consulting the catalogue; namely, the wide range of distribution, the variety of formations, and the commercial value of the specimens. It would have been a comparatively easy matter to have utilized the collections in various museums and of individuals, and in a very simple and laborless way thus obtain a fairly satisfactory representation of our mineral resources; but it was the purpose in the economic mineral collection to present a typical contemporaneous condition of the output, and to show the average commercial product and not striking specimens of unusual occurrence. At the same time it was felt necessary to illuminate the exhibit with a reasonable number of sensational specimens, and these were easily obtainable; and perhaps, after all, in too great abundance. Special Agent Heikes visited personally every mining camp of any prominence west of the eastern slope of the Rocky Mountains. It will be observed that the special ores and minerals assigned to the honorary special agents covered the mineral-producing sections east of the Rocky Mountains and included all the deposits of copper, iron, lead, and zinc. When there is added to these mineral-bearing sections the country covered by the special agents in charge of building and ornamental stone, coals and coke, and clays, an idea is presented of the scope of the system by which it was hoped to present a conscientious and impartial exhibit of the mineral resources of the United States. An effective and economical adjunct

to the work of special agents was conducted from Chicago headquarters by correspondence and the employment of the 4-pound Government franking privilege. This plan consisted of mailing to certain producers boxes 4 by 4 by 6 inches, addressed to the department, with a request to place particular specimens within and remail to the department.

The allotment of space to individual exhibitors was made about the 15th of August, and whether ascribable to the intelligence and fairness with which it was done or to the unusual consideration and sympathy of the individual exhibitors, there has no complaint reached your director with respect to the allotment of areas to the commercial exhibits.

The petroleum, iron and steel, copper, and the tin products, represented, as they were, by great corporations controlling hundreds of individual plants, were given the most important places on the ground floor, while systematic metallurgy, being in the nature of a study collection, was given a more obscure place. The hardware exhibitors, under the classification of minor metallurgy, were massed as a collective exhibit on the gallery space. The ore and industrial mineral collection was given the site of honor in the front center of the ground-floor space, adjoining which, and reached by entrances, as discernible from the floor plan and photographs herewith, were the literature, the systematic metallurgy, the coal, the building stone, and the clays. The collective hardware exhibit, which was made under the personal superintendence of Assistant Director Ward, was most successful in every respect, and presented in a noticeable way an advanced example of the economical occupation of a small area by a very large industry. Exhibition cases for this section were constructed upon order of the department in such manner that all of the façade which surrounded the floor area was made up of exhibition cases, thus exactly doubling the natural amount of space afforded. A price sufficient to cover the cost of the cases, the installation of the exhibits, and the decoration of the space having been estimated, each exhibitor contributed a certain equal amount per running foot of occupied space. Each exhibitor, in addition, paid for the transportation of his exhibit, and, in most instances, agents of the exhibitors were present to install the exhibits. The artistic effect secured in the installation scheme was due to the suggestions and carefully prepared diagrams, designs, and sketches that were furnished the exhibitors in this division by the assistant director having the matter in charge. The report of the trustee who had charge of the funds employed in creating this exhibit is referred to for financial information.

The confusion prevalent within the Exposition grounds during the months previous to the date of opening the Exposition is described at some length in the report of the director of affairs. The palace of



H-11. INTERIOR VIEW PETROLEUM SECTION; STANDARD OIL COMPANY, DEPARTMENT OF MINING AND METALLURGY.



H-12. VIEW OF SOUTH FRONT, SHOWING ENTRANCE TO PETROLEUM SECTION; STANDARD OIL COMPANY, DEPARTMENT OF MINING AND METALLURGY.

mines was not exempt from the general confusion and chaos attending the opening of the great Exposition, and much delay and unexpected expenditure in the installation of the exhibit was occasioned. But as a reward for persistent and patient effort the displays called for by the classification of Group XI were distributed over the two floor areas available and successfully installed according to class, sequence, and importance and open to the public April 14, though for a month thereafter steady work was required to finish the installation, the space, however, remaining at all times open. The splendid bronze and marble façade which extended along the entire frontage of the exhibit was in itself a most striking, artistic, and appropriate exhibit. It was the work of Winslow Brothers, of Chicago, and had been specially designed to illustrate the fact that the power of producing artistic creations in metal and stone is no longer to be a monopoly of the Old World. It was made entirely of American material. The framework was of cast iron, with bronze finish. Into its ornamentation were wrought heads of Rocky Mountain sheep, American eagles, and the seals of the various States and Territories and Indian nations. Pillars and slabs of American marbles and spheres and rods of American copper also entered into the composition of the work. The panels were of rare marbles, and the columns of heavier structural marble and granites; the spans were of ornamental iron and copper. There were thirteen of these marble columns, one for each of the original thirteen States.

Admission to the exhibit was gained by three gates through the façade, one at the middle, opening upon the ore collections, and one at either end, which gave entrance to the petroleum and metallurgical sections, respectively.

The center gate, the most striking feature of the façade, was designed on lines of the portcullis, and rose between two 30-foot columns of bronzed iron. These columns were surmounted by hollow globes of ornamental iron resting on goats' heads and surmounted by eagles.

The façade was 13 feet high and sufficiently open along its whole length to admit of a comprehensive view of the exhibit from the exterior. The space within was so apportioned and the display so arranged that one standing in the main portal on the ground floor could, by an upward glance, comprehend the second and smaller façade, which had been provided for minor metallurgy, and which extended for a length of 82 feet along the gallery above.

As the appropriation for the installation expenses of this department would not have permitted the construction of a façade so elaborate and costly by the department alone, several larger exhibitors whose displays would be enhanced by a striking setting were invited to consider participation in this feature. After consultation with these firms and modifications and reductions on the part of the builders, a price and

plan were agreed upon which permitted the much desired construction, the financial items involved being presented by the trustee of the transaction elsewhere.

The general color tone of the exhibit was Pompeiian red and olive green, and no decorations were employed except the modified use of American flags. Attention to the fact that mining-machinery exhibits could be found at Vincennes was directed by plate-glass signs suspended from the gallery line. Large glass transparencies, in some instances colored, were grouped along the rear walls of the space, highly illuminated by electricity, and presenting interesting views of different mining sections, mills, iron and coal docks, sluices, tramways, etc., calculated to present by pictures a necessarily limited idea of the scenes and methods incident to the industry represented.

Approaching the United States mining section from the north entrance and passing down the broad aisle in front of the façade, the installation presented metallurgy of iron, copper, and tin; building stones and clays; gems and semiprecious stones; the ores and nonmetallic minerals, coals, and cokes; the systematic mineral collection; the library and headquarters of mining engineers and geologists, and petroleum; while back of and partly over these exhibits could be seen the ebony cases containing the collective hardware exhibits.

For the purpose of distinguishing subdivisions the library was finished in black walnut, systematic mineralogy in Flemish oak, and the coal cases in imitation ebony. All other cases constructed by the Government were of mahogany, beautifully finished, and glazed with double-thick American plate glass.

Every specimen in the exhibit was labeled with specially printed labels of uniform color and size, and contained in English either or both scientific and economic data. There were in systematic mineralogy about 1,500 specimens; in the ore collection about 1,702 specimens, representing, it has been stated, something like 600 dividend-paying properties; in the coal and coke collection 150 specimens; in the building-stone collection 332 specimens; in the clay collection 110 specimens.

The ore room was arranged with wall cases forming a square about the area of the exhibit, with flat cases within the square filled with larger specimens, and an hexagonal pyramid case in the center containing specimens of unusual intrinsic value. On the walls of this room were photographic views of the mining camps of Leadville, Aspen, and Cripple Creek, with illustrations of California placer mining. In addition to these were two large frames containing the photographs of prominent geologists, mineralogists, and metallurgists of the United States.

The ores were exhibited by metals and not by geographical occurrence, and over each case a small map of the United States was sus-

pended illustrating the geographical distribution of the minerals shown beneath. In addition to these distribution maps the R. P. Rothwell production charts, giving the economic development of certain principal metals in the United States, were displayed in conjunction with the specific metal referred to.

The utilization of the small space available to the best advantage and to represent as far as possible all the States producing minerals required as a general rule specimens not exceeding 6 inches in cube. Some larger and more characteristic blocks of ore were displayed, however, and filled cases around the center of the area. Particularly was this true of the center case, in which was displayed, resting on a cone, the largest specimen of native crystallized gold in existence, from Fricot mine, California. The gold exhibit further included various native gold specimens and nuggets from Colorado, New Mexico, Washington, North Carolina, and California; the whole forming an unrivaled series of specimens of crystallized gold and gold nuggets and dust. In the collection may be mentioned, in addition to the Fricot mine specimen, about 20 specimens of crystallized gold from the Lillian mine, of Leadville, Colo.; a large specimen of crystallized gold from Nevada County, Cal.; large polished specimens of gold-bearing quartz from the Smuggler, Union mine, Telluride, Colo., exhibited by the Colorado Scientific Society, and from the Topeka mine, Central City, Colo., and an array of gold nuggets and dust from New Mexico, Washington, and California which were exhibited by the Maxwell Land Grant Company, the Bank of Commerce, Seattle, and the California Commission, respectively. Next to the gold collection was a case containing a solid mass of native silver from the Molly Gibson mine, Aspen, Colo. This mass was of flattened oval shape. Its greatest diameter was about 2 feet and its weight 338 pounds. Surrounding it a series of specimens of crystallized copper and silver from Michigan were exhibited by Leopold Brothers, of Chicago. In the two cases adjoining, the Copper Queen Mining Company displayed the finest specimens of malachite and azurite that ever came from their mines. This display drew forth much admiring comment. Cases at the left of the entrance were devoted to the contributions of several well-known mining sections, consisting chiefly of gold quartz and placer gold. An amethyst from Maine, Wisconsin diamonds, and rutilated quartz from North Carolina were also displayed here. In the square cases at the corners of the inner quadrangle were exhibited large single specimens of ores. These included a block of zinc ore, 12 by 24 inches in dimensions, from the mines of the New Jersey Zinc Company, Franklin, N. J.; a block of iron ore (magnetite) of the same size from the Champion Mining Company, Champion, Mich., and a 2-foot cube of the natural sulphate and carbonate of soda from Downey Lake, Wyoming. Another specimen worthy of especial note was a spheroidal

mass of native antimony nearly 1 foot in diameter from Kern County, Cal. This was exhibited by the California State Mining Bureau. Smaller specimens of ores were exhibited, chiefly in the wall cases, and a very complete and satisfactory showing in this class was made. The gold ores here shown included a series of roasted telluride ore from the Independence mine, Cripple Creek, Colo., which attracted much attention. The Woods Investment Company, of Cripple Creek, also presented a complete collection of telluride ores and the accompanying phonolite. In a series of ores shown by the Golden Gate Mining Company, of Mercur, Utah, the association of realgar with the richer ores was illustrated, the exhibit eliciting much inquiry from foreign mining engineers.

Fronting one of the openings in the façade adjoining the ore room were two cases which attracted much attention. These were devoted to American gems and a handsome representation of Jasperized wood from Arizona. One of these cases was of especially attractive construction, occupied by Tiffany & Co., of New York, with a most brilliant collection of cut and uncut gems and semiprecious stones of the United States. This collection, though exhibited by Tiffany & Co., had but recently been purchased by J. Pierpont Morgan and presented to the Museum of Natural History of New York City. A very high intrinsic and scientific value was placed upon it. The other case was occupied by a fine collection of North Carolina gems, exhibited by the State, and of the fossil woods above referred to, exhibited by the Drake Company, of St. Paul.

The chief exhibits of silver ores were from the mines of Washington, Idaho, Colorado, and South Dakota. The series from the Graphic mines, Magdalena, N. Mex., showed limestone, iron, and lead, i. e., flux and ore all occurring in the same mine. The New Almaden, Cal., mercury ores were fully represented, some remarkable sections of veins, containing free mercury, being shown.

The representation of iron ores from different sections of the country was very complete, and was accompanied by statistics of production which showed markedly how the output of iron ores has moved westward within the last decade. Thus the production of ores in New York State in 1889 was 1,247,537 tons, but in 1899 it had dropped to 179,951 tons. The production of the Menominee district, on the contrary, increased from 1,876,157 tons in 1889 to 3,301,052 tons in 1899, and the Mesabi output from 29,245 tons in 1892 to 6,626,384 tons in 1899.

The zinc ores of the country were very fully represented in the collection, the Joplin and New Jersey districts being naturally most prominent.

Adjoining these collections was, as stated, the extensive arrangement of minerals and crystals of the United States, prepared with especial reference to their scientific interest. This collection, gathered

through the cooperation of seven educational institutions of the country according to a plan already described, presented the great variety of minerals to be found in the United States. Of the 850 mineral species about 350 were represented in this collection. It is doubtful if any other country in the world could exhibit so large and varied a representation.

Specimens of special interest in the portion of the collection exhibited by the Michigan School of Mines were ore occurrences of copper in hematite from the Vermilion Range, Minnesota, and of copper after cuprite from the Old Dominion mine, Arizona.

Brilliant pyrite and chalcopyrite specimens from Colorado and Missouri and crystallized molybdenite from Okanogan, Wash., are especially worthy of note in the collection contributed by Colorado College.

The Cornell University exhibit contained some superb specimens of fluorite and pyrargyrite, stephanite, etc., from a new locality, Lake Chelan district, Washington.

In Princeton University's exhibit the series of spinels from New York and quartz from Arkansas were especially fine.

The Massachusetts Institute of Technology exhibited a showy series of Joplin calcite and Arizona azurite and malachite; also some fine specimens of variscite and pyromorphite.

In the University of Chicago's exhibit, which included the silicates and sulphates, were a large crystallized specimen of rhodonite from New Jersey, another of mountain leather from New Almaden, Cal., and a series of tourmalines which were of especial interest.

The collection of crystals of the United States exhibited by the Field Columbian Museum contained about 250 specimens of single crystals, fully illustrating the form of the different species and the six systems of crystallization. They ranged in size from the huge Utah selenites to the little quartz "brilliants" from New York.

In addition to the above collective mineral exhibit the States of North Carolina and California made a very complete display of their minerals, and the firm of A. E. Foote, of Philadelphia, filled two brilliantly lighted arches with showy American minerals.

COAL AND COKE.

The coal and coke section, which was reached by an illuminated passageway at the rear of the ore room, was made particularly interesting by the exhibition of certain comparative statistical charts presenting the relative physical quality of coal produced in different countries, all in comparison with a drawing of Eiffel Tower upon the same scale. This ingenious and instructive method of impressing upon the casual visitor the extent of some mineral products of the United States was the creation of Mr. Parker, of the United States Geological Survey, and the method was extended to a number of other important

branches of the mineral industry in the United States, including iron, copper, etc.

The collective coal exhibit was, within its limits, representative of that industry in the United States, and with the careful labeling of each specimen conveyed a fairly adequate idea of the geographical distribution of this mineral and the productive capacity of the larger individual measures. The display was made upon three sides of a square, 4 and 8 inch cube specimens being arranged by States in two upright cases, while the larger specimens had special installation, or were arranged upon a platform. There were only three large samples of coal on exhibition, these being from the Davis Coal and Coke Company, the Westmoreland Coal Company, and the Lehigh Valley Coal Company. The honorary special agent, to whose gratuitous service the department was indebted for this display, encountered many difficulties in his task, none of them being more formidable than the indifference of producers. As during the period of the Exposition the rapid advance in the price of European coal and the possibility of finding a foreign market for the American product were subjects of deep concern to consumers abroad, the exhibit from the United States attracted a great deal of attention and the department was constantly interviewed for specific data, for pamphlets, and for the addresses of operators and dealers. There were 115 samples of coal and coke in this collective exhibit. Some of the more attractive specimens were upon request sent to the Pan-American Exposition. The Westmoreland specimen was presented to the École de Mines (School of Mines), Paris, and the remainder was given in bulk to the Little Sisters of Charity for fuel.

CLAY.

One of the most attractively arranged and instructive exhibits in the department was the clay collection. Each specimen was represented by the crude, raw pressed, and burnt product. These three types were placed in black japanned-finished tin trays divided into three compartments; attached to the back edge of each tray was a support for the label, which gave the name of deposit, locality, and full analysis. The exhibit was installed in an upright mahogany case with plate-glass doors. At the close of the Exposition the collection was loaned to the Pan-American Exposition at Buffalo, N. Y., and will ultimately be returned to the technical art school at Trenton, N. J.

BUILDING AND ORNAMENTAL STONES.

This collection numbered 332 specimens of the accepted standard building stones of the United States. The specimens were all regular in size—the cubes 4 inches for granite, sandstone, and marble; the slabs 1 by 4 by 12 inches for variegated marbles and onyx. Each bore a label giving the commercial name of the product, name of the

quarry, locality, and name of exhibitor. The cubes and slabs were arranged on shelves in two upright mahogany cases with plate-glass front. This exhibit was returned to the Massachusetts Institute of Technology at the close of the Exposition.

PETROLEUM.

The exhibit of petroleum, which was collected under the supervision of the Geological Survey, was furnished largely by the Standard Oil Company, and was designed to give an ocular illustration of all phases of the petroleum industry as it exists at present in the United States. At the front of the exhibit stood two stone columns 9 feet high—one of oil-bearing sandstone from Pennsylvania, the other of Trenton limestone, which yields large quantities of oil, from Ohio and Indiana. These columns showed that oil is found in close-grained drops in stones which are sufficiently solid for use as building stones. This phase was further illustrated by a case containing many samples of oil-bearing rocks.

Shales and sands which are passed through in drilling for oil were shown to the right and left of the entrance to the exhibit. The occurrence of the oil-bearing sands in the shales was shown by a geological section at the back of the exhibit. A large transparent photograph in the entrance reproduced the result of "torpedoing" a well by exploding from 100 to 200 liters of nitroglycerin at the bottom of the well to increase the yield of oil from the hard rock.

Near the entrance of the exhibit was a case showing the great variety of crude oils obtained in the United States. These samples ranged in color from pale straw, red, and green to black, and included representative oils from all the districts of the United States—the asphaltum oils of California, the sulphur oils of Ohio and Indiana, as well as the better-known oils of Pennsylvania.

In a center case was shown the proportion of each different oil product obtained by refining 50 kilograms of average crude petroleum from the Pennsylvania field. On a shelf, below the central bottle of crude oil, was represented the amount of each unrefined distillate—(1) gasoline, (2) benzine, (3) "water-white" distillate, (4) pure white distillate, (5) standard white distillate, (6) the quantity of residuum or tar left in the still.

Underneath were the products obtained by refining of each of the distillates, and also the products obtained by distilling the residuum—i. e., fuel oil, lubricating oil, "roofer's wax," and finally the quantity of coke left in the retort.

The further treatment of the lubricating oil was also shown, together with the quantity of paraffin wax pressed from it.

The same case contained the vaseline products obtained by a suitable change in the method of treatment of crude oil.

In an alcove to the right of the entrance to the exhibit was a display of the great variety of water-white oils necessary for lamp use. The wonderful perfection of the refining processes of the Standard Oil Company was well shown by these oils. They were made from any grade of Pennsylvania crudes or from the sulphur oils of Ohio. They were always exactly of the same standard, no matter from what source.

Near by in a special alcove were the prime white lamp oils sold at very low prices in the United States, and made to conform to the inspection laws of the various States. In an adjoining alcove were the lamp oils for special uses.

The left side of the exhibit was devoted to lubricating oils. This display was also arranged in alcoves, and the first alcove showed oils for lubricating engines and general machinery. The second was devoted to oils for spindles and spinning machinery. These oils are specially preferred, as they are not liable to spontaneous combustion. Another alcove contained wool oils of all grades. This was followed by an alcove of cylinder oils and cylinder stocks.

A special room contained the varieties of paraffin wax obtained from petroleum and the plain and ornate candles made from it.

A large album of photographs accompanied the exhibit, illustrating all the features of the industry which could not be represented otherwise, such as the "shooting" of a well by nitroglycerin, specimen photograph of which has already been mentioned. A large oil painting at the back of the exhibit depicted the discovery of petroleum by white men in the United States, with a contrasting view of the great oil industry as it is to-day.

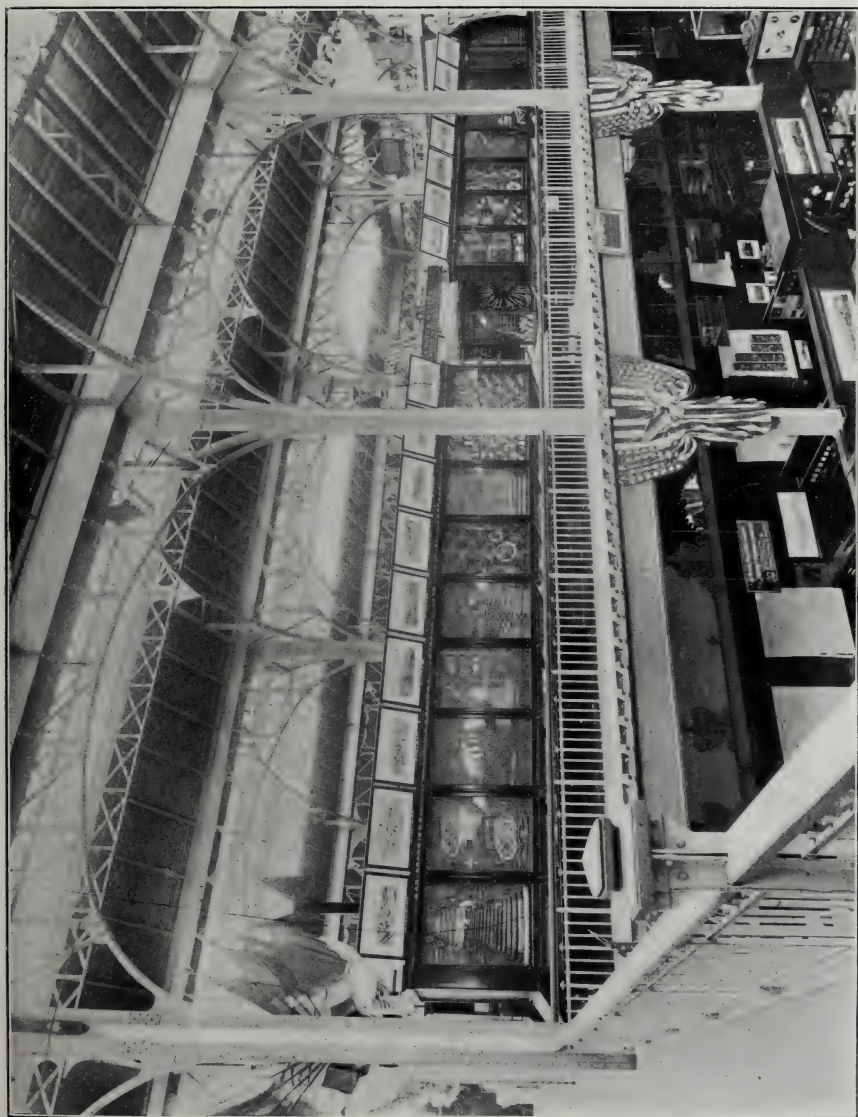
A decorated frieze around the exhibit presented panoramas of the oil regions, giving a picturesque idea of the methods of producing, storing, transporting, and refining and distributing oil products to the world.

Visitors were liberally supplied with pamphlets giving the world's petroleum statistics. A map recently published by the United States Geological Survey was also distributed. It showed the petroleum and natural-gas fields of the United States. Further literature describing the exhibits was given to visitors, who also found some one in charge of the exhibit ready to explain any feature and to give all information concerning petroleum.

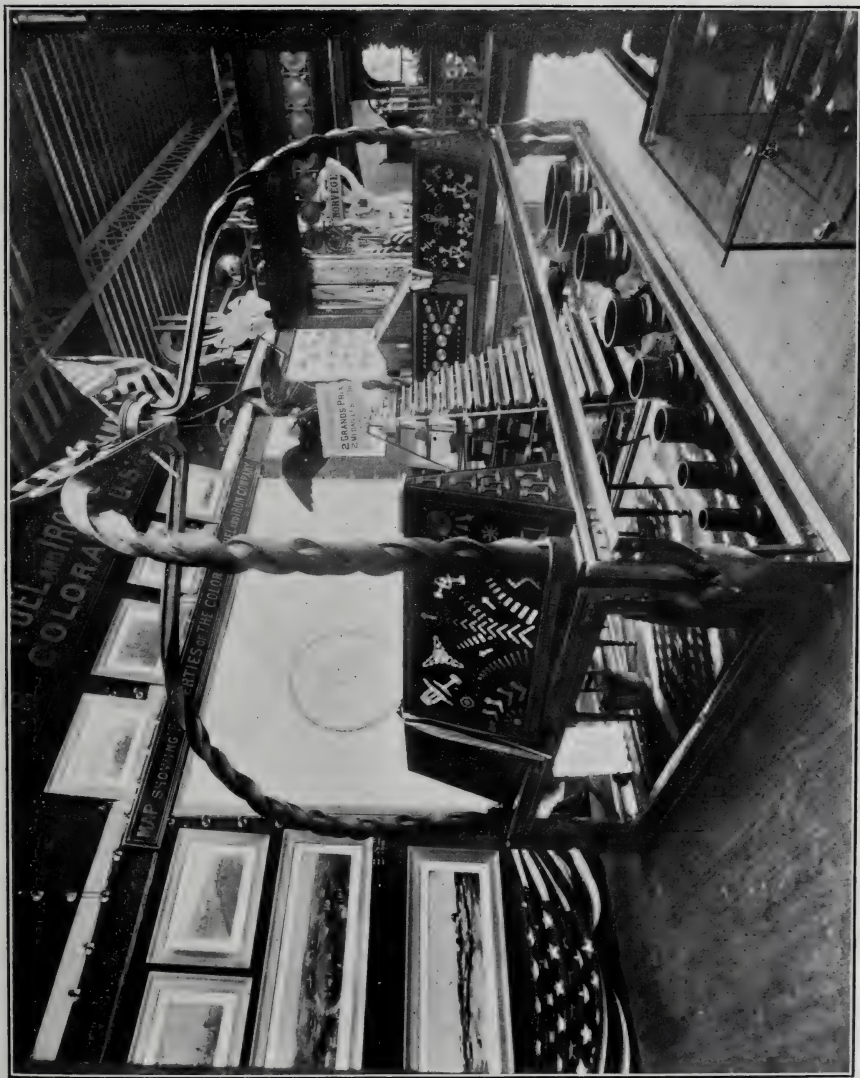
The exhibit was lighted by kerosene, burned under such conditions as to give from a single lamp illumination much greater than would be obtained from an electric arc of ordinary power.

ASPHALT AND PROCESSES.

An exhibit was made also of samples of crude and refined asphalts and material used for paving, and other engineering work, by the Barber Asphalt Paving Company. It included samples of asphalt



H-13. VIEW OF ONE EXTERIOR OF THE MINOR METALLURGY EXHIBIT IN THE GALLERY.



H-15. COLORADO FUEL AND IRON COMPANY'S EXHIBIT, DEPARTMENT OF MINING AND METALLURGY.

paving taken from the principal streets of various cities, showing the condition of the pavement after many years' use, accompanied by statistics, maps, and photographs of streets of American cities paved by the company.

Special methods of refining asphalt, of preparing it for use, and applying it were shown, with the details of the composition of the asphalt and the pavement.

MINOR METALLURGY.

The exhibit of minor metallurgy occupied a rectangular space 20 feet wide by 82 feet long in the gallery, just above the main exhibit of the department, on the ground floor. This was a collective exhibit also, and necessitated a careful application of the area available. The space was surrounded by a double wall of show cases 4 feet wide each. One set of the cases faced outside and the other inside. Each case filled an upright space in which a show board was placed, and upon this board were displayed specimens of the articles manufactured by each exhibitor. A small, flat case was provided below the show board, so arranged that the top could be raised and the articles it contained lifted and examined. There was an entrance at one end of the exhibit and one at each side. The floor space on the inside was divided off and occupied by exhibitors, who erected private structures. Each case was surmounted by a frame photograph representing the works of the exhibitor.

The outside cases on each side of the entrance and two cases on each side of the interior court were occupied by an exhibit consisting of saws of various kinds and tools used in the repairing of saws which was made by E. C. Atkins & Co. The collection was very representative, and included everything in the shape of a saw worked by hand, viz, carpenters' saws of all kinds, cross-cut saws with different kinds of teeth, butchers' saws, wood saws, small circular saws, etc., and a complete collection of goods manufactured by the company.

Four of the outside cases in the display were occupied by an exhibit of finished brass and copper goods made from Arizona copper, presented by the Copper Queen Consolidated Mining Company. The exhibit had been prepared by the Ansonia Brass and Copper Company, and consisted of a wide range of articles. The center of each exhibiting board in this display was occupied by a polished plate, the first being of Tobin bronze, the second of brass, the third tinged with copper, and the fourth pure copper. Around these plates were displayed manufactured articles and sections of rolled bars in attractive design. Copper and brass tubes were also displayed, as well as wire of various kinds; there were fine card and brush wire and spools of brass wire one-thousandth of an inch in diameter. This being the only exhibit

made up entirely of brass and copper, it stood prominently among the other displays.

Three cases were occupied by an exhibit of cast-iron planes, wooden planes, and chisels, gauges, and brace and augur bits, made by the Ohio Tool Company. The chisels were of the socket pattern, which received the handle into the socket. They were much admired by French mechanics, as were also the bits of all kinds.

Four cases were occupied by an exhibit of tacks of various kinds made by the Atlas Tack Company. Many thousands of varieties of tacks were shown in this display and combined into an attractive effect. The lower section of the cases was occupied by small open boxes, each containing different specimens. There were also a number of original packages shown, to give an idea of how the goods were furnished to the trade.

A number of aluminum cooking utensils, both cast and spun, were exhibited in one case by the Wagner Manufacturing Company. The goods were very fine in appearance, and showed great care in their manufacture.

A large variety of tacks and nails and an assortment of carriage bolts were exhibited in a case by the Shelton Tack Company.

The Stanley Works made an exhibit of builders' hardware, embracing many varieties, well displayed, which occupied a case.

A well-arranged exhibit, embracing a full line of carpenters' tools, was made by the Stanley Level and Rule Company. This display was large, and occupied four cases.

North Brothers Manufacturing Company occupied one case with a cleverly arranged exhibit of hardware specialties.

A full line of spring hinges was displayed in two cases by Bommer Brothers.

A variety of double spring hinges was shown by the Stover Manufacturing Company. The exhibit of this company, which occupied one case, also included window pulleys, screen pulleys, lamp brackets, etc.

Fayette R. Plumb displayed an extensive line of hatchets, cleavers, axes, brush hooks, hammers, etc., in an individual case.

T. R. Devlin & Co. occupied an individual case with a complete line of saddlery hardware, including buckles, rings, hooks, etc.

A display of horse and mule shoes, occupying two cases, was made by the Phoenix Horseshoe Company.

Rubber-tube casing, made of thin strips of steel or zinc woven together, which can be easily moved in all directions without cutting the pipe, exhibited by the Metallic Flexible Tubing Company, occupied a case.

An exhibit of various kinds of casters, especially the ball-bearing variety, with the hollow reenforced wheel, was made in one case by the Standard Caster and Wheel Company. This display illustrated

the structure of these articles, all of the parts being detached and open for examination.

A special enameled ware called "Crysolite" was displayed in two cases by the Hibbard, Spencer & Bartlett Co. This ware is white inside and mottled with green outside. The exhibit also contained some samples of metallic weather strips.

Small chains, weldless and otherwise, with snaps and rings, were exhibited in a case by the Oneida Community, Limited. The collection contained hitching chains, dog chains, etc. Some dog collars were shown.

A large display of rivet bolts and buckles, made by the American Steel and Iron Manufacturing Company, occupied six cases. The exhibit was very fine and complete, and the articles were shown in such a variety as to be very interesting. The specimens were tastefully arranged, a noticeable part of the exhibit consisting of hammered and bent tests of the steel used in the manufacture of rivets.

The J. H. Williams Company had a magnificent display of their products at the north interior of this section. The variety of the material and exquisiteness of the workmanship, the ingenuity of the inventions, and the artistic installation constituted a display at once attractive and instructive.

The Kearney & Foote Company presented a work of art in the arrangement of their different styles and sizes of files, the centerpiece being a graceful American eagle, every line of which was made by a file introduced into the sketch.

A unique exhibit of sharpening stones was made by the Pike Manufacturing Company, of New Hampshire. It was in the form of a hexagonal pavilion built upon a polished mahogany base 6 feet in diameter. In the center of this pavilion stood a strong obelisk on which was displayed in artistic arrangement, against a background of moss-green plush, a full line of the various stones of this nature of manufacture. Adjoining the obelisk, inclosed in a plate-glass case 7 feet high, stood six rusticated and reeded columns. These were formed entirely of sharpening stones, five varieties being contained in each column, the name of each variety appearing on a highly polished brass fillet which encircled that portion of the column on which the specified stone formed a section. The color of the stones comprising these columns was graduated from a very dark steel gray at the bottom to an opaque white at the top. The ornamental sign panels suspended from the top of the pavilion were solidly gilded, as were also the balls at the top of the columns and the finial which supported the trade-mark of the company. A feature of this exhibit was the largest oilstone in the world, consisting of a piece of Washita stone 4 feet long by 8 inches wide by 6 inches thick, weighing 205 pounds and valued at \$250.

METALLURGY.

The technical metallurgical collection was made on lines corresponding to the collection of minerals and ores, and it was also arranged in a similar manner. The display was designed to serve the purpose of a scientific classification and arrangement with proper sequence of the products and processes of metallurgical methods in the reduction and utilization of iron, steel, lead, copper, zinc, aluminum, and certain of the more rare metals, the whole constituting a special and complete record of progress and present attainment in the departments of practical and scientific metallurgy.

An examination of the exhibit at once revealed the fact that some of the most important companies of the United States had failed to take part in it. There were reasons for this absence, more or less valid, which had brought to naught a great part of the efforts of the Commission to secure the cooperation of all the representative metallurgical concerns of the country. Outside of its own direct staff the department had secured the assistance of experts more fully acquainted with the details of metallurgical enterprise in America, in order to better reach the proper persons and concerns and negotiate with them in a more direct manner. Unfortunately the conditions at the time the efforts were made to induce the companies to exhibit were not favorable. The answers to the many letters that were sent out by the department show that the extraordinary activity prevalent in the metallurgical industry was a great impediment. The great companies also objected to the small space which might be available to them, and many of them stated that they thought it was not to their interest to send their goods to Paris as they could expect no financial return from any exhibits they might make. The lack of time was also taken as an excuse. As a result, comparatively few of the greater industries were represented.

Pittsburg might have made a very fine display. All of the large companies whose operations are in that district were requested and entreated, even, to join in making an exhibit, but nothing resulted from the negotiations. The Crescent Steel Company was practically the only Pittsburg steel manufactory represented at the Exposition, when there might have been such concerns as the Carnegie Steel Company, the American Tool Company, Jones & Laughlin, Limited, Parke Steel Company, the Schoenberger Steel Company, the Pittsburg Reduction Company, the American Steel Hoop Company, and many others which could have made most interesting exhibits. Such enterprises as the Bethlehem Steel Company, the Cambria Steel Company, the Maryland Steel Company, the Midvale Steel Company, and many others of importance scattered through the United States, also refused to entertain the proposition of making a display at Paris. This almost general abstention from the exhibit was and is to be regretted.

However, although the accomplished result was really comparatively small in contrast with the effort to secure a wider display, it is nevertheless true that the United States metallurgical exhibit was worthy and that, restricted as it was, it elicited the closest attention and inspection from visitors interested in the science and industry and the enthusiastic commendation of the many experts who examined it. That the jury of the Exposition fully appreciated the value of the exhibits displayed is shown by the large number of grand prix and other awards which the representation received.

A REPRESENTATIVE EXHIBIT.

A splendid metallurgical display, occupying a large space on the ground floor and sixteen outside cases, which constituted the east front of the gallery, was made by the American Steel and Wire Company, of Chicago. The value of this exhibit was largely increased by the manner of its installation. On the ground floor in the center of the exhibit arose a fine pavilion which was designed and constructed by Winslow Brothers, and made of bronzed cast iron. It was covered by a roof of prismatic glass and was well lighted inside and outside by electric incandescents. The inside of the pavilion was finished in oak, and its panels were used as settings for specimens of the finest articles manufactured by the company. This pavilion was one of the most notable features of the entire section, and was much admired for its design as well as its contents. Surrounding the pavilion were exhibited in great variety numerous specimens of metallurgical products and metal manufacture. No attempt had been made, in the arrangement of these articles, to produce any fancy designs or other combinations pleasing to the eye, but they included, set forth in a straightforward manner, examples of the different articles of manufacture just as they are put on the market. The collection was complete, although not arranged in a manner similar to that of some exhibits in foreign sections, the variety presented was greater, and the range of manufacture was wider than that offered in this line by any other exhibit in the Exposition.

EXHIBIT BASIC.

In a certain measure the exhibit was systematic, inasmuch as it began by showing the ores used in the manufacture of the pig iron as well as the coke and the limestone. It is a significant fact that many of the large American companies, unlike most of their rivals in Europe, are owners of the mines from which the ore they use is drawn, owning and operating, also, their own coal mine and coke works, so that, in a measure, they are independent and live upon their own resources for all important material. Pig iron shown in this exhibit attracted attention from the fact that the pigs exhibited were not cast in sand, but

in a pig casting machine in which cast-iron molds are used, producing a pig perfectly free from sand. Sections of ingots were also exhibited, both cross and longitudinal, showing the internal structure, and the billet was added to show the continuity of the operation.

It would be difficult to give a detailed account of the many finished articles which were included in this extensive exhibit.

A variety of specimens of steel-plate manufacture were shown. In this collection was a boiler head three-eighths of an inch thick and 120 inches in diameter, which was about three-quarters of an inch larger than the next largest in the whole Exposition. Finer steel articles in the way of bicycle and automobile spokes and other fittings for the same kind of products were also displayed.

A full collection of nails manufactured by the company was presented; the general plan of showing to the public the goods just as they are delivered being followed, also, in this display, the ordinary packages in which the product is sold were shown, and where the nails were exhibited in open cases no attempt was made to furnish them or transform them into exhibition pieces. The variety was very great, extending from the finest tack to the largest nail known in the trade.

Wire of all kinds and sizes and for all purposes was included in the exhibit—plain, galvanized, tinned, and in every shape in which wire can be prepared. A display of tempered wire of great variety was made, including an excellent representation of spring wire and flats of all sizes for spring purposes. Made-up springs were shown of all kinds, from fine clock springs to ordinary furniture springs; the latter were greatly admired by technical men for their fine Japan finish and great resiliency. The test to which they were subjected, which consisted of closing them up in a press at night and letting them out in the morning without effecting any loss of height was one, the success of which European manufacturers of common springs could scarcely believe possible. A full line of wire fences was also shown, representing this most important branch of wire manufacture, as well as all sorts of railroad paddock and other fences, made of straight strands or meshes, fence gauge, and so forth, as well as articles of every kind pertaining to the division or inclosure of landed property.

A fine collection of music wire was also displayed, which effectually recorded the remarkable progress made in the finer lines of American metallurgy during the past few years. In 1893 at Chicago the German manufacturers came triumphant out of a competitive test. In this instance the verdict was reversed and the American wire was placed first; the grand prize for this kind of manufacture being awarded to this exhibit after a series of exhaustive tests.

The wire collection included also a representative display of electrical wires and cables in which pure copper is used. This latter exhibit was extensive and occupied spaces on both the ground and

gallery floors. On the ground floor great piles of copper cables of all sizes were arranged in progressive order; samples being shown with one, two, and three conductors. Specimens of cables were also presented, finished in various ways, some being rubber inserrated tapes, juttred and armored, others being taped, juttred, and leaded over all, and others being rubber inserrated, taped, leaded, juttred, armored, and burlapped. This series was very complete and, taken in connection with the section shown in the gallery, was the equal of anything presented in the Exposition.

The gallery display of the American Steel and Wire Company was an extension of that on the ground floor, and it completed the exhibit of articles of this nature of manufacture. It included a very fine set of sections of electric cables, some of which were most remarkable, such as a cable of No. 169 wire of 2,790,100 circular mills and an aluminum cable of 127 wires of 1,250,000 circular mills. In the electrical line the gallery showed a very complete display of rail bonds for electrical railways. The several spaces were filled with distinct articles, and in them, respectively, could be found cold-drawn shafting, flat wire and springs of all kinds, round springs, woven wire, music wire, chains, large and small, horseshoes, etc., giving an adequate idea of the infinity of articles produced by the company.

Altogether this extensive and varied exhibit made by the American Steel and Wire Company attracted a great deal of attention and astonished many of the Europeans who, though knowing the great development of American metallurgy in general, had not looked for the perfection of details found presented. The exhibit was eminently significant and, it might be said, representative, since it displayed so many sides of the American metallurgical industry. The prices at which the articles displayed could be produced and sold was also a source of astonishment, especially when it was demonstrated that in many cases they could be furnished to certain European points at figures lower than locally prevailed. It is a fact significant to Europeans that many of the United States iron and steel producing companies maintain agencies in London, Paris, Berlin, and other important centers, from which they annually dispose of the products of their manufacture.

IRON AND STEEL AND PRODUCTS—STEEL RAILS.

An exhibit of iron and steel manufacture was made by the Colorado Fuel and Iron Company. While not extensive, the display was very interesting and was very uniquely installed.

The exhibit was inclosed by a railing made of polished heavy rails, well fitted together and of massive effect. From the four corners of this frame arose to the center of the exhibit a series of arches of rails, which had been bent and twisted and which formed a sort of dome

over all. From the center of the floor space arose a pyramidal rack upon which were exhibited in polished lengths various sizes of rails and specimens of ores and coals used in their manufacture. Four framed panels stood at each corner, and upon them were displayed sections of a large variety of shapes of manufactured iron and steel, as well as bolts, nuts, spikes, and other steel products. A series of sections of cast-iron pipe was exhibited, embracing specimens of pipe of varying diameter.

A mineral display was included in this exhibit which was quite instructive. The ores used by the exhibiting company for the manufacture of its Bessemer steel were shown. These ores were mostly from Colorado, New Mexico, and Wyoming, and registered remarkable purity. The phosphorus in all of the varieties was as low as 0.008 and not higher than 0.018, while the percentage of metallic iron registered from 64 to 69 per cent, which presented a remarkable set of ores eminently fit for fine Bessemer steel. The display of coals was even more varied and remarkable. Beginning with Gunnison County anthracite, with 6 to 10 per cent of volatile matter, the series presented ran through the coke and coal of Las Animas and Fremont counties, with about 34 per cent of volatile matter, and finally included coals of Huerfano County, in which the volatile matter often exceeded 45 per cent. These coals attracted much attention, particularly on account of their peculiar structure. Some of the varieties were in the shape of boulders about the size of an average pumpkin, and which when sawn through showed the coal to be perfectly solid without any laminae or cleavage.

TOOLS, TOOL MATERIAL, AND DIES.

An exhibit of tool material and tools was made by the Crescent Steel Company, of Pittsburg. This display registered a departure from the usual method pursued by tool-steel manufacturers. The stereotyped manner of presenting such wares is to take the bars of various diameters and lengths and arrange them in more or less attractive designs with perhaps some fractures of steel containing various amounts of carbon. The organizers of this exhibit had a different conception, and evolved a plan which was at once novel and instructive. The ordinary bars and fracture were shown, but in limited quantities only, the main portion of the large case forming a part of the exhibit being filled with tools of various kinds which had been made of Crescent steel and which in most cases had been in use a long time. In this manner the steel was shown in action, so to speak, and its quality revealed in a practical way, it being impossible to convey the same idea by any amount of common bars.

The main portion of the exhibit was installed in a show case 14½ feet long by 3 feet deep which was inclosed on all sides by plate glass, the upper part of the show case being filled with fine steels and tools

which had been used. On the outside of the case heavy billets, heavy springs, and long bars of the various sections of manufactured tool steel were shown. In a small case, very fine files made of the company's steel were displayed on a revolving stand.

The tools exhibited in the case were furnished with labels printed in English giving their history. Some of the instruments—on account of their remarkable performances, as recorded in their labels—attracted much attention from visitors who were acquainted with the trade. The display of dies was especially admired, and in this line a few of the exhibits were remarkable, indeed. There was a set of very expensive tools of this kind used in the manufacture of silver hairbrush backs, watch cases, medals, shields, etc., all of which had been used and showed considerable wear. Among plainer dies was exhibited a pair of screw-heading dies which had headed 175,084 pieces. Another pair of dies shown had headed 2,802,600 pins in one hundred and seventy-three hours. A rotary cutter used in pointing pins was exhibited which had pointed 2,000,000 pins. This rotary cutter had been reworked and recut and had been softened and tempered 17 times. Another die was shown which had formed 608,524 staples and was yet good for double that amount. A pair of forging dies used in making knife handles was in the collection which had forged 250,000 handles. As each handle required three strokes, these dies had struck 750,000 blows. There were also presented a number of milling cutters, all of which had done a large amount of work, as well as lathe tools made of high-class tool steel and self-tempering steel. The chips cut by the latter tools were exhibited to show how heavy the cuts were. Among the curiosities in the case was a piece of steel which had been tempered 500 times. It originally had been nine-sixteenths of an inch square and 3 inches long, but successive temperings had so altered its shape that—as exhibited—it was an ovoid about 1 inch long, the edges of the square being scarcely discernible along the curve of the ovoid. The piece would scratch glass.

RAILS, FISH PLATES, AND ANGLES.

An exhibit of steel and its manufacture was also made by the Illinois Steel Company. The display was installed in four large cases, each case having two exhibiting boards upon which were arranged test pieces of various steels manufactured and a full set of sections of rails, fish plates, angles, I-beams, and other shapes rolled in iron and steel mills of this nature.

Tests were shown from open-hearth steel, the most remarkable in the exhibit being specimens of results obtained from extra-soft steel used in the manufacture of Mielause boilers made for the Russian battle ships which were constructed in the United States. A large

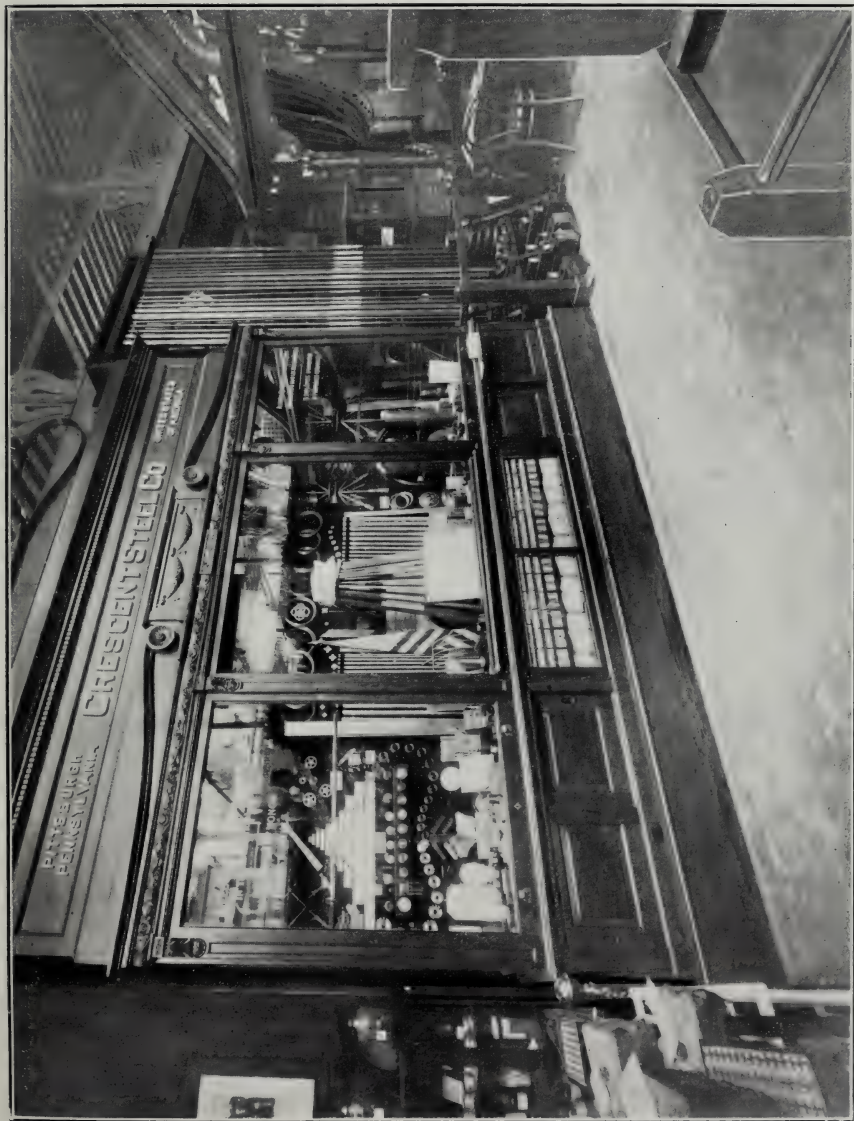
model of one of the company's South Chicago blast furnaces was shown, displaying the lines of the furnace and a system of wash cooling in great detail.

STEEL SHEETS AND CASTINGS.

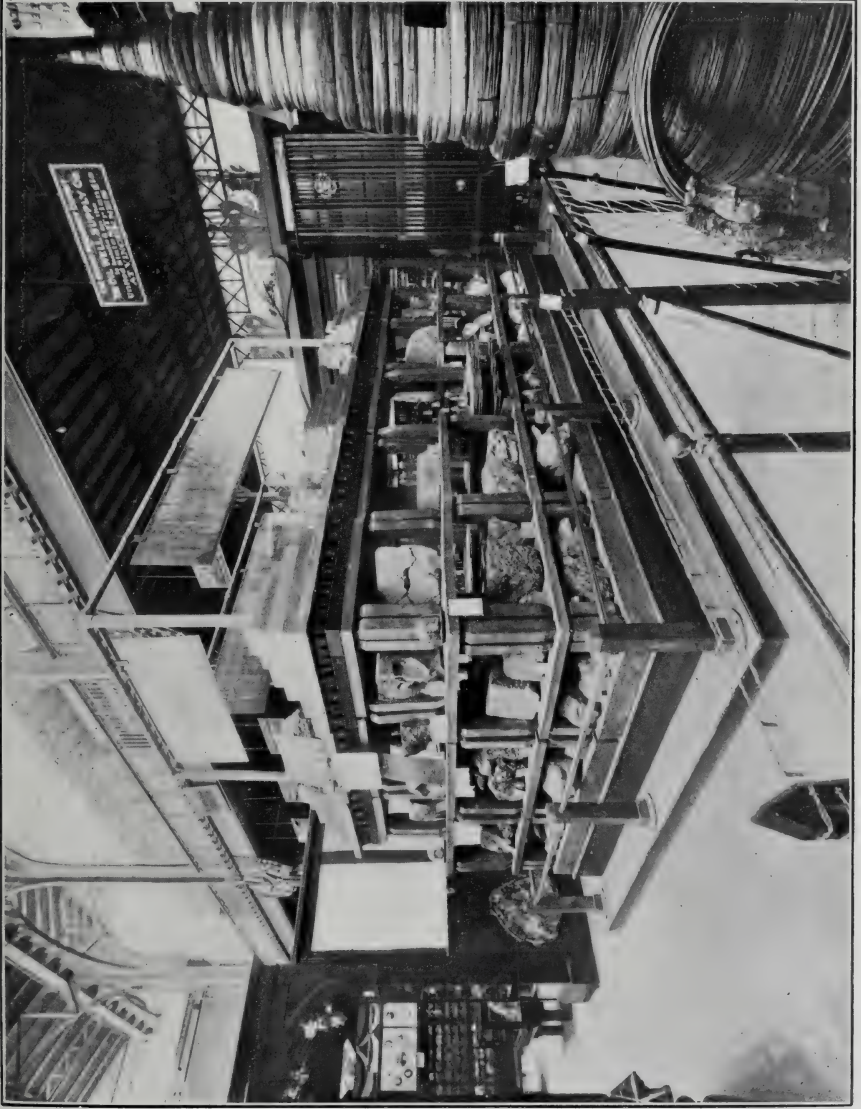
An exhibit of special steels made by the Hadfield system was presented by the Taylor Iron and Steel Company, of Highbridge. It included a number of bursting shells which the company regularly furnishes the United States Government and which are accepted in competition with forged shells. These shells are cast, being treated after casting in a special manner in order to impart to them the necessary qualities. In addition to the shells there was a collection of manganese casting, also made by the Hadfield method and including such objects as small mining wheels, street-railway crossings, rock and coal breaker jaws, coal and stone rotary screen plates, and other articles in which toughness and resistance to wear are required. The specimens contained from 12 to 14 per cent of manganese and fairly represented the uses to which this special steel can be put. A fine example of its use was shown in the shape of a burglar-proof safe in which the gold specimens exhibited by the Commission were stored at night. This safe was cast in one piece, the joint between the door and body of the safe being ground the hardest of abrasives to insure exact fit. Steel tools even of the hardest description have, as is well known, no effect upon manganese steel. This exhibit was hors concours, a member of the firm being on the jury.

A set of remarkable crucible-steel armor-piercing shells were displayed by the Benjamin Atha and Illingworth Company, of Newark, N. J. There were six shells in the collection. Three of them were new, and three had pierced a plate of harveyized steel equal in thickness to the diameter of the shells. The tested shells, with the exception of the largest one, which had a slight bulge, were practically intact. This exhibit, though not large, showed the progress made in the manufacture of war material in the United States. The shells compared very favorably with some which had been similarly tested and exhibited in the foreign sections.

Specimens of fine finished castings were displayed by the H. H. Franklin Manufacturing Company, of Syracuse, N. Y. These castings, which were arranged on a small frame show board, were made of special alloys, the constitution of which was not disclosed. Their peculiarity was that they had come out of the mold in a finished state and needed no tooling. There were some very excellent specimens of this kind of work among the samples, such as a screw cover with fine threads as perfect in every respect as if the threads had been cut by the machine, and a graphophone frame and small gears, all smooth and true to the pattern, requiring no further finish whatever.



H-16. EXHIBIT OF CRESCENT STEEL COMPANY, DEPARTMENT OF MINING AND METALLURGY.



H-17. EXHIBIT OF THE COPPER QUEEN CONSOLIDATED COMPANY, DEPARTMENT OF MINING AND METALLURGY.

HEAVY WIRE CABLES.

An exhibit of wire cables was made by John A. Roeblings & Sons Company, of Trenton, N. J. This exhibit was installed in the gallery. It consisted of a full set of wire cables so displayed and arranged that two large rosewood cases in the exhibit with two pyramidal piles of coiled cable furnished a foundation for a model of the Brooklyn Bridge. The anchorage piers of the bridge rested on the cases and the bridge pier proper rested on the coils of wire cable. The model of the bridge was complete in every respect, being made of strips of silvered steel and small silver cables. The full-sized sections of the cables used on the Brooklyn Bridge were shown on the floor below the model.

PIG IRON.

A large case of samples of pig iron from various parts of the United States was exhibited by Rogers, Brown & Co., of New York. The coke irons in this exhibit were mostly from the Southern districts; the charcoal irons were from the Lake Superior region. The ores, limestone, and coke used in the extraction of the iron were exhibited.

COPPER.

A metallurgical display of copper was made by the Copper Queen Consolidated Mining Company, of Bisbee, Ariz., in the shape of a trophy constructed of heavy copper plates and wire bars, the total weight of the refined copper used in the display being 142,000 pounds. The foundation plates were 44 inches square and 6 inches in thickness, and weighed in the neighborhood of 3,800 pounds each. The plates forming the upper story were 2 inches in thickness and 44 inches square. Copper ingots were used as ornaments and served for the support of the cornice. Each corner was surmounted with copper plates in pyramidal shape, and inscriptions describing the various mines worked in connection with the exhibiting company were displayed on large copper plates hanging from a copper railing.

The ores of three different Arizona mines under the control of Phelps, Dodge & Co., of New York, were displayed on the successive stories of this trophy. The ores of the United Verde mines were placed on the lower story, and the ores of the Copper Queen and the Detroit mines were placed on the next story. The third story was used for the display of the concentrates from the Detroit mine and of the furnace products of the Copper Queen and Detroit mines. The ores displayed were the working ores, such as are used in the production of copper at these mines, and no attempt was made to choose them for either richness or beauty. They were arranged in a systematic manner, being placed in the order in which they are found in the mines, beginning with the pure sulphides of the lower levels and continuing

through the altered sulphides to the carbonates and oxides as found in the upper ledge. The furnace products showed the mattes resulting from the smelting of the ores in the water-jacket furnaces, then the white copper and its accompanying slags obtained during the first period of the blowing in the Bessemer converter, and finally the pig copper, the last product of the Bessemer operation. Analyses were attached to every specimen, showing that the furnace matte contained about 50 per cent copper; the white metal about 65 per cent, and the pig copper about 98 per cent. Two large niches were reserved on each side of the trophy, in which were shown the anodes and cathodes resulting from electrolysis of the pig copper. One ton of copper of anodes and cathodes and small pigs were exhibited in each niche as the result of the treating of about 15 tons of raw ore. The amount of gold and silver obtained from 1 ton of the fine copper was shown under glass cases, consisting of 12 ounces of silver and about \$5 worth of gold.

The output of the three mines whose ores were exhibited in the trophy was recorded as equaling 62,000,000 pounds yearly, the Copper Queen producing 40,000,000 pounds, the Detroit 16,000,000, and the Globe 6,000,000.

The exhibit was massive in appearance, and attracted much attention from all on-lookers. It was specially interesting to those having knowledge of metallurgy of copper, who expressed admiration of the systematic manner in which the exhibit was arranged and the intelligence shown in displaying the ores, furnace products, etc., in such manner that the various operations could be followed continuously to the final electrolyzing process which produced pure copper.

TIN.

An exhibit of tin and tin products was made by the American Tin Plate Company. This exhibit was installed in a handsome pavilion in modern Greek style, built entirely of materials of tin, the columns of the pavilion being of polished sheets of tin, the rest of the structure of tin plate worked into suitable designs.

Passageways in the form of a cross were arranged inside the pavilion, and between the passageways and the railing various kinds of tin plate and other grades of fine steel sheets were exhibited on slanting racks. The varieties of plates were indicated by neatly painted signs on each rack. In the center of the pavilion at the crossing of the aisles a pyramid was made of boxes containing square sheets of tin plate known as strawboards. The pyramid was topped with the American eagle in tin. The racks were supported upon piles of boxes similar to those used in America for packing tin plate. The wall in the rear of the pavilion was covered with tin plates of various sizes, upon which were painted statistics and information concerning the processes and output of the company for the production of tin plate in the United

States. The names of thirty-four different manufacturers appeared on the signs, and the figures recording production extended from 1891 to 1899. These figures were eloquent, since in 1891 the total production of tin plate in the United States was 11,236,743 pounds, while in 1899 the production was 99,000,000 pounds. This record of progress attracted much attention, and produced surprised comment, doubts even being expressed by many foreigners as to the accuracy of the figures. The record is indeed remarkable, and is one that can not be met anywhere outside of the United States. It showed that in less than a decade the country had been freed from foreign tribute, and that now, in ordinary times, the American tin plate manufacturers furnish all of the tin product that is used in the country.

The varieties of other steel sheets shown embraced tin plates of all thicknesses and varieties of finish, including the so-called coke plates, now misnamed, since all foundation for tin plate is made of practically the same quality of steel. Coke-bright plates, charcoal plates, which differ from the former only by a thicker coating of tin and a higher finish, pickled and annealed black plates, cold-rolled plates, tiggers plates, and polished plates similar to the famous Russian sheet iron were exhibited. The series was complete and the display in general was a credit to the United States and to the American Tin Plate Company, which came to Paris with no hope of opening trade in Europe, being prompted simply by a patriotic feeling and desire to show what American enterprise can accomplish under favorable circumstances.

LEAD.

Some samples of lead and its products were exhibited by the National Lead Company, of New York. The display included lead and tin pipe, pressed-lead traps, and various qualities of antifriction metals, as well as various solders manufactured by the company.

RARER METALS AND ARSENIC ORES.

An interesting collection of rarer metals, including chromium, tungsten, molybdenum, together with their ores, was made by Stein & Boericke, of Philadelphia. Samples of manganese chrome and tungsten in powder and specimens of ferro chrome, containing 71 per cent of chrome, were shown in this display.

An exhibit of specimens of arsenical and other ores, showing their treatment and preparation for leaching, was made by the De la Mar Mining Company, of Mercur, Utah. The arsenious acid recovered in the flue dust and the by-product was also shown.

FIRE CLAY—SILICA.

Fire clay and its products were exhibited by the Denver Fire Clay Company, the collection including specimens of fire clay crucibles for mint and jewelers' purposes and cupels and muffles for assay furnaces.

The remarkable quality of these specimens was readily detected by experts, and the collection, though small, was useful in showing the excellence of articles of this kind made in the United States.

Specimens of silica bricks and blocks used in the construction of Siemen's furnaces in the United States, both crucible and open hearth, were exhibited by the Ligonier Fire Brick Company, of Pittsburg. Although the jury made no tests or analyses of refractory materials, the ocular comparison showed that these bricks were the equal of any exhibited in the Exposition. They were stated to have been made of a rock containing a sufficient amount of fluxing material to cause the bricks to agglomerate, but not to melt under high temperature. They contained about 98 per cent pure silica.

APPLIANCES AND PROCESSES.

An exhibit of metallurgical appliances made of graphite, such as crucibles for brass and steel melting and stoppers and nozzles for steel ladles, was made by the Seidel Crucible Company, of Philadelphia. Several sizes of each of these articles were shown.

Among the exhibits of abrasive material the specimens shown by the Carborundum Company, of Niagara Falls, aroused great interest. In a large upright case were displayed brilliant specimens of crude, crystallized carborundum, together with grinding wheels of different sizes, showing a finished form of the product. Labels described the preparation and uses of carborundum. It is made from a mixture of coke, dust, and sand, fed into a large electric furnace of 10,000 horsepower, supplied by Niagara Falls. Under the influence of this current there is formed from the sand and coke a carbide of silicon, which is the carborundum. Having a hardness greater than any known substance except the diamond, it forms a very efficient abrasive.

With the carborundum was exhibited an artificial graphite made by the Acheson Graphite Company, of Niagara Falls. This is also a product of electrical smelting secured by using 1,000 horsepower taken from Niagara Falls. This graphite is made from anthracite coal, which, when mixed with metallic oxide or salt, molded into shape, and passed through the electric furnace, is converted into carbides, which disassociate at a higher temperature, thus forming graphite, which has been found to possess the qualities necessary for the manufacturing of crucibles, paints, lubricants, and the various uses to which the several grades of graphite may be put, including such articles as electrodes for alkali manufacture, brushes for dynamos, etc., which are molded into the proper shape and then graphitized.

An exhibit of the processes used in the treatment of cupriferous gold and silver ore was made by the Boston and Colorado Mining and Smelting Company, of Denver. The successive operations in crushing, concentrating, roasting, and refining mattes were shown by samples from each operation. An explanatory diagram accompanied the collection.

A working model of a belt conveyor was exhibited by the Robins Conveying Belt Company, which represented the larger types of machines of this nature. The model was 18 feet long by 3 feet wide, and arranged to automatically load and discharge material passing over the belt. It was constructed by one of the leading type-writing machine manufactories which turned out the model complete in every detail.

DRAWINGS OF METALLURGICAL APPARATUS AND PLANTS.

Drawings of steel-making appliances and plans of similar work were presented by the Wellman-Seaver Engineering Company, of Cleveland. The display included a drawing of a heating furnace, electric charging, of special design made by the company, also a drawing of a tilting open-hearth furnace, with a special casting nozzle, designed by S. T. Wellman, to do away with the usual casting ladle and its attending evils. This furnace is in use at the works of the Alabama Steel and Shipbuilding Company, the general plans of the works of which were shown on another drawing.

Five drawings were also displayed by the Carnegie Steel Company, Limited, of Pittsburg. They included a plan and an elevation of the new open-hearth shop at Homestead, and of the large section of the celebrated Duquesne blast furnaces, whose average is 600 tons of pig iron per furnace per day. Details of the base and top of the furnace accompanied this section.

A drawing of a 32-inch blooming mill built for Jones & Laughlin, of Pittsburg, and a 50 by 72 reversing engine which drives it, was shown by Mackintosh, Hemphill & Co., of Pittsburg.

The McCormick Harvesting Machine Company presented two interesting exhibits in their special pavilion at Vincennes, which exhibits were entered and reviewed in class 65. These were sprocket-wheel belting and a sand molding machine. As explained by the exhibitor, heretofore sprocket chain has been cast and then malleableized, after which the links have been put together to form a chain. The chain exhibited by this exhibitor is made by an automatic machine, into which the steel is run from rolls of ribbon and comes out finished chain. It is claimed that the economy of this mechanism makes it possible to use a superior metal, producing a lighter chain and thus increasing its strength and durability. The sand molding machine constituted an equally interesting exhibit, that, whereas heretofore these molds have been formed in sand by workmen performing the entire operation, this invention increases the foundry output threefold and much improves the quality of the castings. One of the benefits claimed for this machine is the resulting uniformity in size and accuracy of proportion, which is a great advantage in view of the necessity of making such castings interchangeable.

LITERARY EXHIBIT.

In continuation of the efforts to make the work of the department of definite interest and value to specialists and students, it was decided to establish in connection with the exhibit a suitable headquarters or room for consultation and reference for these experts and interested parties. To this end, as noted in the review of the installation of the exhibit, a special space was set aside in the exhibit area and a room provided, which was installed with a proper library and otherwise equipped to make it a serviceable headquarters for such visitors to the Exposition as might be directly interested in the exhibit of the department. This room was made the particular headquarters of the members of the American Institute of Mining Engineers and of the geological societies of the United States while they were in Paris.

Especial attention was paid to the setting and decoration of this room in order that it might be attractive and pleasant as well as useful. Comfortable chairs, tables, and writing materials were provided, as well as a full line of scientific periodicals and publications pertaining to mining and metallurgy. The walls of the room were hung with portraits of leading American scientists, including the president and ex-presidents of the American Institute of Mining Engineers and prominent college professors and others identified with kindred work. Above the portraits and the bookshelves extended a continuous frieze of colored transparencies, containing views of mining regions, metallurgical works, stone quarries, docks, etc. The room immediately adjoined the special exhibit of systematic mineralogy, and proved a material adjunct to the work of the department, becoming the favorite rendezvous for both American and foreign representatives whose labors and interests are associated with these special collections.

EXHIBIT OF COMMERCIAL CATALOGUES OF MINING AND METALLURGY.

Of particular interest and value in this connection was a unique exhibit contributed by the Iron Age. When the question of participation in the Paris Exposition was considered by the management of this journal, the idea was conceived of gathering together a library of the literature of iron and steel, hardware, machine tools, and allied tools, so as to put before the public in a concise form the magnitude of American enterprises in this line. There were collected over 5,000 catalogues, some of them consisting of a few pages only, others being heavy folios running into thousands of pages. The smaller catalogues were classified by States and placed in boxes which could be easily handled while the larger volumes were placed on accessible shelves. This exhibit in no small manner assisted in lending interest to the general display. Many foreigners took advantage of the opportunity offered of examining the catalogues and a beneficial result was secured by the collection which could hardly have been accomplished in any other manner.

As no disappointment had been experienced in the arrangement and classification of exhibits, none was expressed of the façade and general plan of the installation. As an evidence of the esteem in which this latter work was held two special medals were awarded the director of the department by the Exposition authorities, one grand prix for the ore exhibit and one gold medal for the metallurgical exhibit.

The approximate amount of expenses of individual exhibitors, including cost of special manufacture, packing, transportation, handling, etc., was \$253,500.

Assistant Director W. S. Ward having been appointed to serve in an important capacity upon the international jury, tendered his resignation May 31, 1900, and Mr. Victor C. Heikes was appointed to succeed him. Later, and about the time of the close of the exhibition, the director of the department being obliged to return to the United States, Mr. Heikes was appointed acting director, and it was under his authority and responsibility that the exhibit was dismantled and returned to the United States. The preparations made by the department in anticipation of the task of breaking up the exhibit simplified this vexatious and ordinarily trying work considerably, and the material belonging to exhibitors was promptly prepared for shipment and started on its homeward voyage, while material for which the Government was responsible and those items in the collections that had to be returned to owners were boxed, filling 469 cases, and loaded upon the *Prairie*. The acting director of the department met the *Prairie* upon its arrival at Baltimore on the 4th of February, and by the evening of the 9th his duties in connection with the distribution of material had been completed.

Appended hereto is a list of the awards received by the department, and accompanying this report will be found the installation plan of the department and a number of photographs giving views of general and specific installation.

Very respectfully, yours,

F. J. V. SKIFF,

Director of the Department of Mining and Metallurgy.

Hon. FERDINAND W. PECK,

Commissioner-General.

CLASS 63.

GRAND PRIX.

American Steel and Wire Company of New Jersey, New York City.
 California State commission to the Paris Exposition, San Francisco, Cal.
 Colorado Fuel and Iron Company of Pueblo, Colo., Denver, Colo.
 Copper Queen Consolidated Mining Company, New York City.
 United States Geological Survey, Washington, D. C.
 Ingersoll-Sergeant Drill Company, New York City.

Oil Well Supply Company, New York City.
 Standard Oil Company, New York City.
 American Museum of Natural History, collection, Tiffany-Morgan, New York City.
 Lehigh Valley Coal Company, Wilkesbarre, Pa.
 Robins Conveying Belt Company, New York City.
 United States Commission to the Paris Exposition, department of mining and metallurgy, F. J. V. Skiff, director.

GOLD MEDALS.

American Institute of Mining Engineers, New York City.
 Barney Marble Company, Swanton, Vt.
 Bullock Manufacturing Company, Chicago, Ill.
 California State mining bureau, San Francisco, Cal.
 Drake & Co., St. Paul, Minn.
 Jeffrey Manufacturing Company, Columbus, Ohio.
 George F. Kunz, New York City.
 New Almaden Quicksilver Mining Company, New Almaden, Cal.
 New York State Museum, Albany, N. Y.
 North Carolina State board of agriculture, Raleigh, N. C.
 Pike Manufacturing Company, Pike Station, N. H.
 Rand Drill Company, New York City.
 Richard P. Rothwell, New York (253 Broadway).
 Charles Kirchhoff, New York (232 Williams street).
 Frank E. Seward, New York (Times Building).
 M. L. Fuller, of the Massachusetts Institute of Technology, Boston.
 North Carolina State commission to the Paris Exposition, Raleigh, N. C.

SILVER MEDALS.

Charles F. Binns, Trenton, N. J.
 Colorado College, Colorado Springs, Colo.
 Cornell University, Ithaca, N. Y.
 Field Columbian Museum, Chicago, Ill.
 Foote Mineral Company, Philadelphia, Pa.
 Geological survey, New Jersey State, Trenton, N. J.
 Stratton's Independence mines, Cripple Creek, Colo.
 Portland Mining Company, Cripple Creek, Colo.
 Henry P. Lowe, Denver, Colo.
 Massachusetts Institute of Technology, Boston, Mass.
 Maxwell Land Grant Company, Raton, N. Mex.
 Michigan School of Mines, Houghton, Mich.
 Mollie Gibson Consolidated Mining Company, Aspen, Colo.
 National Bank of Commerce, Seattle, Wash.
 New Jersey Zinc Company, Franklin Furnace, N. J. (70 Broadway, New York).
 New Sapphire Syndicate, Great Falls, Mont.
 North Carolina State Museum, Raleigh, N. C.
 Pacific Coast Borax Company, San Francisco, Cal.
 John Pierce, New York City (5 Beekman street).
 Princeton University, Princeton, N. J.
 University of Chicago, Chicago, Ill.
 Woods Investment Company, Colorado Springs, Colo.
 Wood, T. S., Leadville, Colo.
 American Turquoise Company, New Mexico, 15 Broadway, New York City.
 D. Fricot, California.
 Beaudry and Siskiyou Hydraulic Mining Company, Siskiyou County, Cal.
 Calaveras Consolidated Mining Company, Cave City, Cal.
 California State mining bureau, San Francisco, Cal.

BRONZE MEDALS.

Assyrian Gilsonite Company, Salt Lake City, Utah.
 Central Phosphate Company, Beaufort, S. C.
 Colorado Scientific Society, Denver, Colo.
 Columbia Marble Quarrying Company, Rutland, Vt.
 W. B. Dwight, Vassar College, Poughkeepsie, N. Y.
 Geological survey, Indiana State, Indianapolis, Ind.
 Geological survey, Kansas, Lawrence, Kans.
 Geological survey, Kentucky, Lexington, Ky.
 Geological survey, Michigan, Lansing, Mich.
 Kessler Brothers, San Francisco, Cal.
 Nathan F. Leopold, 102 Dearborn street, Chicago.
 Watts & Heikes, Boulder, Colo.
 Poulot & Voilleque, Denver, Colo.
 Prof. J. C. Carrera, Las Cruces, N. Mex.

HONORABLE MENTION.

A. Blanc, Kern County, Cal.
 J. H. Winslow, Riddles, Oreg.)
 University of Wyoming, Laramie, Wyo.
 Alfred H. Smith & Co., New York City.
 Davidson, G. A., Trinity County, Cal.
 Mme. F. Zeitler, California.
 Kinsey Talc Company, North Carolina.
 J. E. Talmage, Salt Lake City, Utah.

Collaborators.

GOLD MEDALS.

Kebler, J. H., Colorado Fuel and Iron Company, Denver, Colo.
 Waring, O. T., Standard Oil Company, New York City.
 Day, David T., Standard Oil Company, New York City.
 Ward, W. S., department of mines, United States Commission to Paris, Denver, Colo.
 Valois, Arthur E., department of mines, United States Commission to Paris Exposition, Denver, Colo.
 Haines, James, Drake Company, St. Paul, Minn.
 Miller, Charles, Standard Oil Company, New York City.

SILVER MEDALS.

Ekman, A., California commission to Paris Exposition, San Francisco, Cal.
 Parker, E. W., United States Geological Survey, Washington, D. C.
 Diller, J. S., United States Geological Survey, Washington, D. C.
 Howell, E. E., United States Geological Survey, Washington, D. C.
 Heikes, Victor C., department of mines, United States Commission to Paris Exposition, Boulder, Colo.
 Winchell, Alexander N., department of mines, United States Commission to Paris Exposition, Minneapolis, Minn. (Butte, Mont.).
 Hatch, Francis Clark, Drake Company, St. Paul, Minn.
 Batten, Edmond F., Drake Company, St. Paul, Minn.

BRONZE MEDALS.

Bragg, J. R. M., Colorado College, Colorado Springs, Colo.
 Gill, A. C., Cornell University, Ithaca, N. Y.
 Farrington, O. C., Field Columbian Museum, Chicago, Ill.

Crosby, W. O., Massachusetts Institute of Technology, Boston, Mass.
 Mercer, H. T., Michigan School of Mines, Houghton, Mich.
 Hewitt, E. R., Princeton University, Princeton, N. J.
 Iddings, J. P., University of Chicago, Chicago, Ill.
 Harris, George P., Drake Company, St. Paul, Minn.

HONORABLE MENTIONS.

Burghy, G. A., Oil Well Supply Company, Pittsburg, Pa.
 Johnstone, C., Oil Well Supply Company, Pittsburg, Pa.
 Laufer, C. A., Oil Well Supply Company, Pittsburg, Pa.
 Keever, H. B. M. C., Oil Well Supply Company, Pittsburg, Pa.

CLASS 64.

HORS CONCOURS.

Bethlehem Steel Company, South Bethlehem, Pa.
 Taylor Iron and Steel Company, New York City.

GRAND PRIX.

American Steel and Wire Company, New York City.
 American Tin Plate Company, New York City.
 Colorado Fuel and Iron Company, Pueblo, Colo.
 Crescent Steel Company, Pittsburg, Pa.
 Copper Queen Mining Company, New York, N. Y., and Bisbee, Ariz.

GOLD MEDALS.

Roebbling Sons & Co., Trenton, N. J.
 Iron Age Publishing Company, New York City.
 Department of mines, United States Commission to Paris Exposition, F. J. V. Skiff,
 director.
 Welmann Seaver Engineering Company, Cleveland, Ohio.
 Colorado Smelting and Refining Company, Denver, Colo.
 Denver Fire Clay Company, Denver, Colo.
 Ligonier Fire Brick Company, Pittsburg, Pa.
 Farnley Iron Company,

SILVER MEDALS.

Atha & Illingworth Company, Harrisonville, N. J.
 De la Mar Mining Company, Mercur, Utah.
 Illinois Steel Company, Chicago, Ill.
 Rogers, Brown & Co., New York City (71 Broadway).
 Franklin, H. H., Manufacturing Company, Syracuse, N. Y.
 Stein & Boericke, Philadelphia, Pa.

BRONZE MEDAL.

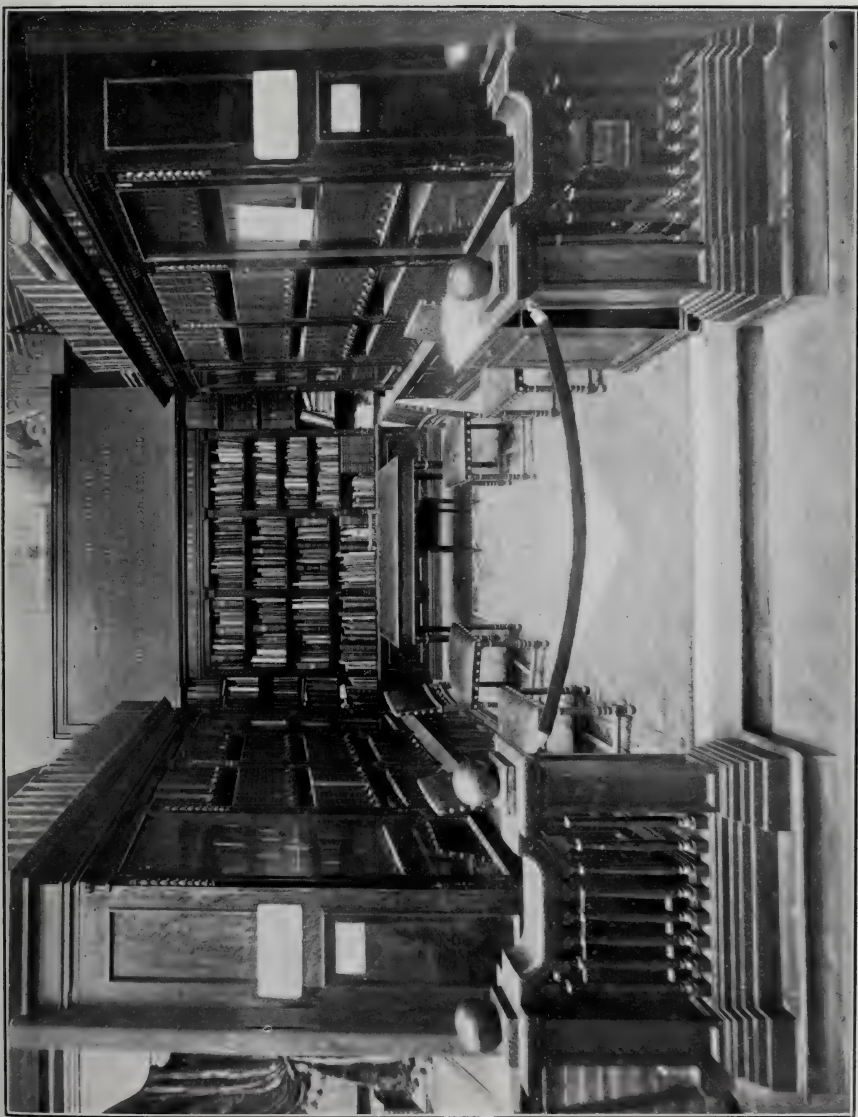
Carnegie Steel Company, Pittsburg, Pa.

HONORABLE MENTIONS.

Seidel Crucible Company, Philadelphia, Pa.
 MacIntosh Hemphill & Co., Pittsburg, Pa.



H-18. EXHIBIT OF THE AMERICAN TIN PLATE COMPANY, DEPARTMENT OF MINING AND METALLURGY.



H-20. THE LITERATURE OF IRON AND STEEL. EXHIBIT MADE BY THE IRON AGE PUBLISHING COMPANY, DEPARTMENT OF MINING AND METALLURGY.

Collaborators.

GOLD MEDALS.

Daniels, Frederick, American Steel and Wire Company, New York City.
 Palmer, William, American Steel and Wire Company, New York City.
 Cronmeyer, W. C., American Tin Plate Company, New York City.
 Gibb, George, Colorado Fuel and Iron Company, Denver, Colo.
 Douglas, James, Copper Queen Mining Company, Bisbee, Ariz.
 Reuben, Miller, Crescent Steel Company, South Bethlehem, Pa.
 Taylor, L. W., Bethlehem Steel Company, South Bethlehem, Pa.

SILVER MEDALS.

Douglas, Walter, Copper Queen Mining Company, Bisbee, Ariz.
 Mills, Chas. E., Copper Queen Mining Company, Bisbee, Ariz.
 Laureau, L. G., Copper Queen Mining Company, New York (11 Waverly place).
 Butler, Albert, Crescent Steel Company, Pittsburg, Pa.
 Janeways, John, Roebblings Sons Company, Trenton, N. J.
 Rogers, W. S., Roebblings Sons Company, Trenton, N. J.
 Walter, Gaston, Taylor Iron and Steel Company, New York City.
 Taylor, W. J., Taylor Iron and Steel Company, New York City.
 Kirchhoff, C., Iron Age, New York City.
 Williams, ———, Illinois Steel Company, Chicago, Ill.
 Foote, C. H., Illinois Steel Company, Chicago, Ill.

BRONZE MEDALS.

Brinton, Walter, Taylor Iron and Steel Company, New York City.
 Percival, Christie, Taylor Iron and Steel Company, New York City.
 Atha, Herbert, Atha & Illingworth Company, Harrisonville, N. J.
 Julian, Frank, Illinois Steel Company, Chicago, Ill.

CLASS 65.

GRAND PRIX.

John A. Roebblings Sons Company, Trenton, N. J.

GOLD MEDALS.

American Steel and Wire Company, New York.
 Plumb, Fayette R., Frankford, Philadelphia, Pa.
 Hibbard Rodman Ely Safe Company, The, New York (253 Broadway).
 Eagle Lock Company, The, Terryville, Conn.
 Yale & Towne Manufacturing Company, New York City.
 American Steel and Iron Company, Reading, Pa.
 Winslow Brothers Company, Chicago, Ill.
 Simonds Manufacturing Company, Fitchburg, Mass.
 J. H. Williams Company, Brooklyn, N. Y.
 E. C. Atkins & Co., Indianapolis, Ind.
 Bommer Brothers, 257-271 Classon avenue, Brooklyn, N. Y.
 The Stanley Works, New Britain, Conn.

SILVER MEDALS.

Devlin Thomas & Co., Philadelphia, Pa.
 Stanley Rule and Level Company, New Britain, Conn.
 Ohio Tool Company, Columbus, Ohio.

Atlas Tack Company, Taunton, Mass.
 Pike Manufacturing Company, Pike Station, N. H.
 Phoenix Horse Shoe Company, Poughkeepsie, N. Y.
 Enterprise Manufacturing Company, Philadelphia, Pa.
 Hibbard, Spencer, Bartlett & Co., Chicago, Ill.
 McCormick Harvester Machine Company, Chicago, Ill.
 North Brothers Manufacturing Company, Philadelphia, Pa.
 Stover Manufacturing Company, Freeport, Ill.
 Griswold Manufacturing Company, Erie, Pa.

HORS CONCOURS.

Kearney & Foot Company, New York City.

BRONZE MEDALS.

Oneida Community, Niagara Falls, N. Y.
 Standard Castor and Wheel Company, 318 East Twenty-third street, New York.
 Shelton & Co., Shelton, Conn.
 H. H. Franklin Manufacturing Company, Syracuse, N. Y.
 Metallic Flexible Tubing Company, Philadelphia, Pa.

Collaborators.

SILVER MEDALS.

Potter, E. C., Atkins, & Co., Indianapolis Ind.
 Carnegy, Roebling's Sons Company, Trenton, N. J.
 Lockwood, Stanley Works, New Britain, Conn.
 Russell, J. H. Williams & Co., Brooklyn, N. Y.

BRONZE MEDALS.

Gladding, Atkins & Co., Indianapolis Ind.
 Gates, Atkins & Co., Indianapolis, Ind.
 Monard, Roebling's Sons Company, Trenton, N. J.
 Ziegler, Stover Manufacturing Company, Freeport, Ill.
 Fischer, Winslow Brothers Company, Chicago, Ill.
 Hauson, Winslow Brothers Company, Chicago, Ill.
 Pridmore, Henry, McCormick Harvester Machine Company, Chicago, Ill.
 Manjin, John, McCormick Harvester Machine Company, Chicago, Ill.
 Clark, Alfred.

HONORABLE MENTIONS.

Hopkins, Charles, Bostwick Gate Shutter.
 Mathews, J., Bostwick Gate Shutter.
 Held, Stover Manufacturing Company, Freeport, Ill.
 Irwin, John M., Stover Manufacturing Company, Freeport, Ill.

CUBA.

SILVER MEDALS.

Carlos Villa, Escuelas Pias.

BRONZE MEDALS.

P. Rojas, Manuel Cadenas, Cueto & Co., Puerto Principe, Cuba.

REPORT OF THE DEPARTMENT OF VARIED
INDUSTRIES.

(GROUPS XII AND XV.)

M. H. HULBERT, DIRECTOR.

DEPARTMENT OF VARIED INDUSTRIES.

CONTENTS.

[For key to plan of installation, see table giving location, description of exhibits, and awards received, p.—.]

I. Date of appointment and department covered.—II. Applications on file at the beginning of 1899.—III. Limitations.—IV. Suggestions for organization.—V. Organization, appointments, assistants, and experts.—VI. Janitor force.—VII. Guards.—VIII. Administration: (1) Travel; (2) industries not represented; (3) exhibitors having individual spaces; (4) collective exhibits; (5) collective exhibit of stationery—(a) report of E. W. Dayton, expert for the collective exhibit of stationery and allied industries; (b) estimated cost of exhibit and actual cost to January 1, 1900; (6) collective exhibit heating and ventilating—(a) report of W. F. Wolf, expert in the department of heating and ventilation; (b) estimated cost of exhibit and actual cost to January 1, 1900; (7) collective exhibit furniture and decorations—(a) report of Charles E. Spratt, expert for the collective exhibit of furniture and decoration; (b) estimated cost of exhibit and actual cost to January 1, 1900; (8) collective exhibit watches and clocks—(a) report of A. J. G. Hodenpyl, expert for the collective exhibit watches and clocks; (9) collective exhibit india rubber—(a) report of H. C. Pearson, expert for the collective exhibit india rubber; (10) collective exhibit stained glass; (11) general installation; (12) withdrawals; (13) contracts signed; (14) allotment; (15) façades and construction; (16) façades and decorations; (17) installations; (18) ventilating fans; (19) transportation—(a) report of E. W. Crist, assistant director of the department of varied industries; (20) electricity; (21) jury; (22) decorations; (23) disposal of material; (24) conclusion; (25) statistics; (26) analysis of exhibitors in the department of varied industries; (27) list of exhibitors.—IX. Table of location, description of exhibits, and awards received.

KEY AND TITLES, ILLUSTRATIONS AND VIEWS.

- I-1. North front of façade, Varied Industries section, Esplanade des Invalides.
- I-2. South front of façade, Varied Industries section, Esplanade des Invalides.
- I-3. Looking north, west aisle, Varied Industries section, Esplanade des Invalides.
Collective exhibit of furniture on left.
- I-4. Collective exhibit of furniture and decorations, Varied Industries section, Esplanade des Invalides.
- I-5. Collective exhibit of stationery, Varied Industries section, Esplanade des Invalides.
- I-6. Installation of bronzes, Varied Industries section, Esplanade des Invalides.
- I-7. Installation of ceramics, Varied Industries section, Esplanade des Invalides.
- I-8. Installation of ceramics showing style of show case, Varied Industries section, Esplanade des Invalides.

- I-9. Installation of exhibit cases without interior shelving, Varied Industries section, Esplanade des Invalides.
- I-10. Collective exhibit of heating and ventilating apparatus, Varied Industries section, Esplanade des Invalides.
- I-11. Section of open installation, Varied Industries section, Esplanade des Invalides.
- I-12. Installation of furniture and interior decorations, Varied Industries section, Esplanade des Invalides.
- I-13. Installation of office furniture, Varied Industries section, Esplanade des Invalides.
- I-14. Section of furniture installation, Varied Industries section, Esplanade des Invalides.

CLASSIFICATION.

GROUP XII.—DECORATION AND FURNITURE OF PUBLIC BUILDINGS AND DWELLINGS.

CLASS 66.—*Permanent decoration of public buildings and dwellings.*

1. Plans, drawings, and models of permanent decoration. 2. Carpentry: Models of framework, roof work, vaults, domes, wooden partitions, etc. Ornamental joiner work: Doors, windows, panels, inlaid floors, organ cases, choir stalls, etc. 3. Permanent decorations in marble, stone, plaster, papier-maché, carton pierre, etc. Ornamental carvings. 4. Iron work and locksmith's work applied to decoration; grill work and doors in cast or wrought iron; doors and balustrades in bronze; roof decoration in lead, copper, zinc, dormers, spires, finials, vanes, crest, and ridge work. 5. Decorative paintings on stone, wood, metal, canvas, or other surfaces. 6. Mosaic decorations in stone or marble for flooring; enameled mosaics for walls and vaulted surfaces. Various applications of ceramics to the permanent decoration of public buildings and dwellings.

CLASS 67.—*Stained glass.*

Stained glass for churches, public buildings, and private dwellings. Specimens of various kinds of glass used for decorative windows. Special enamels. Models of window tracery.

CLASS 68.—*Paper hangings.*

[Raw materials, equipment, processes, and products.]

1. Special raw materials used in the manufacture of wall paper. 2. Machinery for printing wall papers and fancy papers. Machines for engraving printing rollers. Flat wood blocks or copper plates, engraved by hand. Drawing pens. Machines for varnishing, glazing, calendering, embossing, gilding, flocking, rolling, and cutting. Special brushes and cloths used in the laying of wall paper. 3. Stained papers, printed papers. Flocked, marbled, veined, gilt papers. Papers for book covers, binding, etc. Artistic paper. Enameled and glazed papers. Imitations of wood and of leather. Window shades painted or printed.

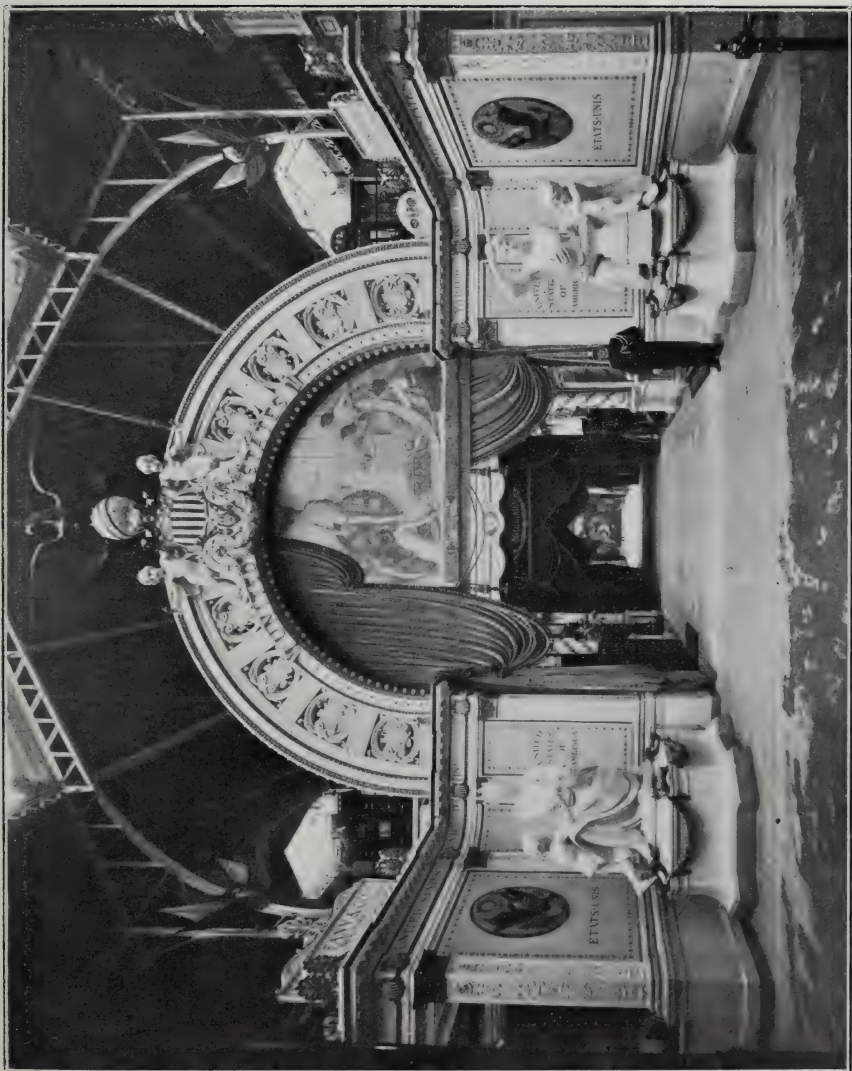
CLASS 69.—*Household and artistic furniture.*

Sideboards, bookcases, tables, beds, dressing tables, chairs, billiard tables, etc.

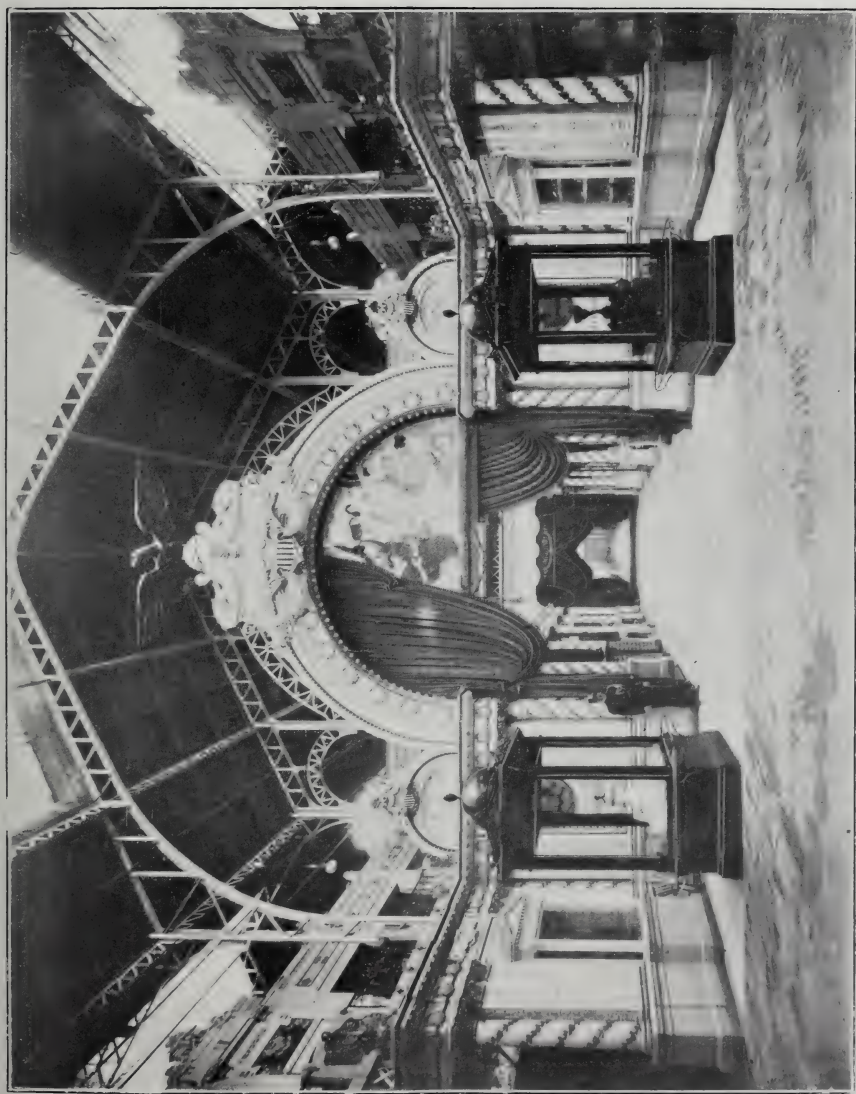
CLASS 70.—*Carpets, tapestries, and fabrics for upholstery.*

[Materials, equipment, methods, and products.]

Special machinery for the manufacture of carpets and tapestry: High-warp looms, low-warp looms, bobbin-winding, etc. 2. Carpets, moquettes, tapestry, Brussels, or velvet. Felt carpets, mats, etc. Furniture materials in silk, wool, cotton, linen,



I-1. NORTH FRONT OF FAÇADE, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.



1-2. SOUTH FRONT OF FAÇADE, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.

jute, ramie, plain, mixed, brocaded, printed, embroidered. Horsehair cloths, vegetable leather, moleskin, etc. Leather for hangings and for covering furniture. Oil-cloths. Linoleum.

CLASS 71.—*Upholsterers' decorations.*

Decoration for public and private festivals, for religious services, etc. Bed furniture, upholstered chairs, canopies, curtains, hangings of cloth or tapestry; frames; framed mirrors, etc.

CLASS 72.—*Ceramics.*

[Raw materials, equipment, processes, and products.]

1. Raw materials, particularly chemical products used in ceramic industries. 2. Equipment and methods used in the manufacture of earthenwares; machines for turning, pressing, and molding earthenware; machines for making bricks, roofing tiles, drain tiles, and pottery for building purposes; furnaces, kilns, muffles, and baking apparatus; appliances for preparing and grinding enamels. 3. Various porcelains: Biscuits of porcelain and of earthenware; earthenware of white or colored body, with transparent or tin glazes; earthenware and terra cotta for agricultural purposes, paving tiles, enameled lava. Stoneware, plain and decorated. Tiles, bricks, paving bricks, pipes. Fireproof materials not included in the classes of metallurgy or of heating. Statuettes, groups, and ornaments in terra cotta, enamels applied to ceramics, mosaics of clay or of enamels.

CLASS 73.—*Glass and crystal.*

[Raw materials, equipment, processes, and products.]

1. Raw materials, and particularly chemical products used in the manufacture of glass. 2. Equipment and processes used in the manufacture of glass and crystal; equipment for the preparation of raw materials; furnaces; blowing apparatus; molds; lathes for engraving and shaping; apparatus for cutting and for casting, etc. 3. Window glass, white or colored, fluted, enameled, etc. Glass for photography. Curved glass. Plate glass, rough or polished. Silvered glass. Glass for pavements. Mirrors for projections. Glass with surface in relief. Table glass; glass or crystal, white or colored, cut or engraved; glassware and glass apparatus for scientific uses. Ornamental glass. Bottles. Enamels; their application to glass. Mosaics of glass. Imitation precious stones. Watch glasses; spectacle glasses. Glass used for optical purposes.

CLASS 74.—*Apparatus and processes for heating and ventilation.*

1. Systems of heating and ventilation. Heating by steam, hot water, hot air, and their combinations. Methods of conveying and distributing steam, hot water, and hot air used separately or in combination. Natural ventilation; ventilation by exhaustion; ventilation by mechanical means, and their combinations. Plans and models of buildings heated and ventilated; public buildings, factories, dwelling houses. 2. Apparatus. Stoves and furnaces peculiar to the various systems of heating. Radiators of heat of all kinds and sizes. Steam or hot-water boilers. Steam or hot-water ranges. Hot-air pipes. Hot-air stoves. Ventilators and displacers of air. Up-draft ventilators. Methods for the direct renewal of air to warmed and ventilated apartments. 3. Apparatus for household heating. Preparation and cooking of food. Stoves or chimneys, fixed or movable. Apparatus for heating by petroleum or by gas. Steam cooking ranges. Kitchen ranges of all kinds, stoves used at the same time for cooking food and for warming apartments. Stoves adapted to certain special forms of cooking. Stoves and apparatus, fixed or movable, used for preparing food or beverages in large quantities. Ventilators operated by the wind or by

differences of temperature. Sanitation and ventilation of kitchens and of small living rooms. 4. Accessories to heating and ventilation. Measuring and registering apparatus: Thermometers; self-registering thermometers; pyrometers; anemometers; manometers for measuring low-gas pressures and for indicating the level of water in pipes; appliances for measuring the flow of steam through pipes; registering apparatus of every kind. Thermostats: Distributing and regulating apparatus; regulators of temperature; regulators of draft; regulators of pressure; automatic drip cocks and air cocks; cocks specially fitted for heating apparatus. 5. Chimney fittings. Dampers for chimneys. Closing of flues. Openings for hot air and ventilation. Gratings and plates. Metallic casings for heating apparatus. Special sheet iron. Chimney pots and smoke consumers. 6. Fireplace and chimney pottery. Stoves and chimneys in earthenware. Ornaments. Earthenware of every sort for the fireplace. Refractory materials for hearths, hot-air stoves, stoves and chimneys. 7. Accessories. Hearth furniture: Fire lighters. Ash sifters. Utensils for cleaning and repairing.

CLASS 75.—*Apparatus and methods, not electrical, for lighting.*

Lighting by means of vegetable or mineral oils (petroleum, shale, heavy oil, heavy oil sprayed, spirit): Lamps, burners, wicks, lamp chimneys, etc., apparatus for domestic, industrial, and public lighting. Lighting by gas: Lamps, burners, chimneys, burners of flat flame, Argand burners, burners for recuperation, for carburation, for incandescence, apparatus for domestic, industrial, and public lighting. Accessories to lighting: Lighters, glasses, globes, shades, reflectors, screens, smoke consumers, etc.

GROUP XV.—DIVERSIFIED INDUSTRIES.

CLASS 92.—*Stationery.*

[Machinery, processes, and products.]

1. Special equipment and processes used for making or preparing stationery, account books, copy books, envelopes, bags, wrappers, etc. 2. Made up of paper and cardboard; ruled, bordered, or ornamented paper; envelopes, pockets, sacks; school copy books, memorandum books, notebooks, letter-copying books, account books, book covers, letter files, menu cards, playing cards, paper boxes, cases; packages of cigarette papers, etc. Desk furnishings: Inks, pens, penholders, crayon holders, wax and wafers, paper weights, inkstands, etc. Artists' materials for painting, architecture, sculpture, and drawing; canvases, panels, crayons, brushes, hair pencils, mathematical instruments for architects, etchers, engravers, sculptors; tracing papers and cloths; parchments; colors, varnishes, charcoals, pastels, stumps, lay figures, easels; color boxes and other artists' materials not named above.

CLASS 93.—*Cutlery.*

[Equipment, processes, and products.]

1. Special equipment for the manufacture of cutlery, particularly for grinding and polishing. 2. Table cutlery, pocket knives, knives with fixed blades; cutlery for gardeners, for vine culture, and for various trades; scissors and workbox accessories; razors of all kinds; fine hardware in polished steel; small silversmiths' ware.

CLASS 94.—*Silversmiths' and goldsmiths' ware.*

[Appliances, processes, and products.]

1. Special equipment for manufacture, hand tools; outfit for casting; machinery (lathes, scales, etc.); outfit for electroplating, etc.; methods of work. 2. Gold and silver smiths' work for religious or for common uses, of gold, silver, bronze or other metals; plated ware; articles gilt or silver plated by any processes; enameled work; goldsmiths' enamel; enamels painted upon metal.

CLASS 95.—*Jewelry.*

[Equipment, processes, and products.]

1. Special equipment; methods of work. 2. Fine jewelry; lapidary work; diamond cutting; cutting of gems; engraving on fine stones; engraving of hard cameos and of shells; gold jewelry; jewelry in debased gold for exportation; jewelry of silver, platinum, aluminum, etc.; jewelry set with precious stones; imitation lapidary work; imitation of precious stones, pearls, etc.; gilt jewelry; imitation jewelry in copper and other metals; steel jewelry; mourning jewelry in jet and in glass; jewelry in coral, amber, mother-of-pearl, etc.

CLASS 96.—*Clock and watch making.*

[Equipment, processes, and products.]

1. Special equipment for manufacturing clocks and watches, hand tools, machine tools (lathes and other tools), measuring instruments. 2. Preparation of various metals used by watch and clock makers; separate parts of watch and clock works; springs; watch cases in precious or common metals; holes and fittings in rubies or other jewels; enameled or other dials, etc.; clocks for churches and public buildings; astronomical clocks; marine chronometers; clocks moved by electricity, air, or water; ornamental clocks and timekeepers; regulators; alarm clocks; watches; chronometers; metronomes; pedometers; various recording instruments; clepsydras and hour-glasses; chimes connected with clockwork.

CLASS 97.—*Works of art in bronze, cast iron and wrought iron, repousse work.*

[Equipment, processes, and products.]

1. Special equipment for manufacture: Types of foundries; patterns and molds; outfit for chasing and repousse work; processes for mechanical reduction. 2. Works of art in bronze, cast iron, and wrought iron (other than objects included in class 65); art work in zinc; repousse, stamped, and damascened metals.

CLASS 98.—*Brushes, fine leather articles, fancy articles, and basket work.*

[Equipment, processes, and products.]

1. Equipment and methods used in the manufacture of brushes, fine leather articles, fancy articles, and basket work. 2. Brushes: Toilet brushes, designated as fine brushes; brushes for household, harness, and stable use, etc., designated as coarse brushes; brushes for artists and for house painting, designated as paint brushes; feather brushes. Fine leather goods: Dressing cases, traveling bags, scabbards, portemonnaies, portfolios, toilet cases, notebooks, cigar cases, small objects and fancy articles in skins, clasps for portemonnaies and hand bags. Fancy articles: Work-boxes and small fancy furniture, liquor cases, glove boxes, jewel cases. Turned articles: Engine turned, carved, engraved in ivory, tortoise shell, mother-of-pearl, etc.; pipes and smokers' articles, snuffboxes, toilet and other combs in ivory, tortoise shell, horn, celluloid, boxwood, etc.; various articles in lacquer work, small bronzes. Basket work: Baskets and hampers for common use, fancy baskets for confectioners, for household use, traveling, etc.; articles in esparto grass.

CLASS 99.—*India-rubber and gutta-percha industries.—Articles for traveling and for encamping.*

[Equipment, processes, and products.]

1. Equipment and methods used in the manufacture of india-rubber and gutta-percha goods. 2. General products of the india-rubber and gutta-percha industries;

trunks, valises, bags, satchels, dressing and traveling cases; packing cases and boxes; locks and other fittings for trunks, valises, etc.; cushions; waterproof clothing and boots and shoes; alpenstocks, grapnels, parasols; various requisites for travelers; portable equipment specially prepared for traveling and for scientific expeditions; outfits for geologists, mineralogists, naturalists, colonists, pioneers, explorers, etc.; tents and accessories; beds, hammocks, seats, folding chairs, and other camp furniture and equipment.

CLASS 100.—*Toys.*

1. Equipment and processes used in the manufacture of toys. 2. Playthings: Dolls, talking dolls and accessories, playthings in metal, dolls' dinner and tea services, children's watches, mechanical toys, arms and equipments for children, musical instruments, doll's furniture, horses, animals, carts, toys in india rubber and in gold-beaters skin, scientific and educational toys; games for children or for adults, croquet, bowls, lawn tennis, skittles, grace hoops, baseball, polo, golf, etc.

CATALOGUE OF EXHIBITORS.

GROUP XII.—DECORATION AND FURNITURE OF PUBLIC BUILDINGS AND DWELLINGS.

CLASS 66.—*Permanent decoration of public buildings and dwellings.*

- Beil & Mauch, 81 Illinois street, Chicago: Ornamental plaster, façade of Hall of Honor.
- Bitter, Karl, Weehawken, N. J.: Permanent decorations in plaster.
- Brant, C. E., 156 Fifth avenue, New York: Plan of permanent decorations.
- Bridgeport Wood Finishing Company, New Milford, Conn.: Finished wood and cabinetwork.
- Carr, Lyell, 103 West Fifty-fourth street, New York: Decorative painting on canvas frieze, United States Pavilion.
- Columbia Marble Quarrying Company, Rutland, Vt.: Marble tiles.
- Drake & Co., 359 Drake block, St. Paul, Minn.: Arizona petrified wood.
- Eggleston, Thomas, New York: Design for agricultural façade.
- Garnsey, Elmer E., White Plains, N. Y.: Mural decorations.
- Healy & Millet, 225 Wabash avenue, Chicago: Permanent decorations in plaster.
- Herter, Albert, East Hampton, Long Island, N. Y.: Decorative painting on canvas.
- Kitson, Arthur, Philadelphia, Pa.: Ornamental lamp-posts.
- Klee, John, 327 East Fortieth street, New York City: Ornamental work and staff, Groups XII and XV.
- Koch, G. W., & Son, 467 Fifth avenue, New York: Parquet in national pavilion, teak wood, tiger wood, and mahajua wood.
- Koopman, August, Fifty-seventh street, New York: Decorative painting on canvas.
- Mertz, George, & Sons, Port Chester, N. Y.: Automatic machine-turned and embossed wood molding.
- Northrup, Henry S., 40 Cherry street, New York: Stamped steel ceilings.
- Reid, Robert, 142 East Thirty-third street, New York: Mural decorations.
- Stevenson & Co.: Permanent decorations.
- Taft, Joseph H., 41 East Twentieth street, New York: Ornamental joiner work; decorative plaster and painting.
- Wallis, Frank E., Thompson Building, New York: Design in façade.

Winslow Bros. & Co., Chicago, Ill.: Ornamental wrought-iron work on United States façade, department mines and metallurgy.

Zallee, John, 311½ North Seventh street, St. Louis, Mo.: Patent asphalt and cement mixture roofing.

CLASS 67.—*Stained glass.*

California Art Glass Bending and Cutting Works, San Francisco, Cal.: Stained glass.

Lamb, J. & R., 23 Sixth avenue, New York: Stained glass.

Lathrop, Frank, 29 Washington square, New York: Stained glass.

Tiffany Glass and Decorating Company, 333-341 Fourth avenue, New York City:
Colored glass windows for churches and other buildings.

Tiffany, Louis, 333 Fourth avenue, New York: Stained glass.

Wilson, Fred., New York, stained glass.

CLASS 68.—*Paper hangings.*

Campbell, William, & Co., New York: Wall paper.

CLASS 69.—*Household and artistic furniture.*

American Adjustable Folding Chair Company, 1144 Broadway, New York: Adjustable chairs and reading desks.

American School Furniture Company, 111 Fifth avenue, New York: School furniture.

Bicycle Step Ladder Company, 65 Randolph street, Chicago: Rolling store-service ladder for high shelving.

Bierbrier, F. E., 22 East Fourteenth street, New York: Revolving bookcase.

Brunswick-Balke-Collender Company, New York and Chicago: Billiard tables and accessories.

Davenport, A. H., Washington street, Boston, Mass.: Furniture.

Drake & Co., 359 Drake block, St. Paul, Minn.: Furniture in petrified wood.

Ford, J. S., Johnson & Co., 1433-1437 Wabash avenue, Chicago: Chairs.

Girard, C. C., & Cutler, M., 23 East Thirty-First street, New York: Carved and inlaid furniture.

Globe-Wernicke Company, The, Cincinnati, Ohio: Patented "elastic" bookcases for libraries, etc.

Hayden Company, 1 West Thirty-fourth street, New York: Banking-house furniture, colonial designs; modern show cases.

Irving & Casson, Boston, Mass.: Show cases.

Keyless Lock Company, Indianapolis, Ind.: Office desks, tables, and racks.

Knipp, John C., & Bro., 121 and 123 North Howard street, Baltimore, Md.: Cases made of plain oak, for United States commission in mines, chemical industries, etc.

Koch & Co., Theo. A., Chicago: Barbers' chairs.

Meador Furniture Company, Cincinnati, Ohio: Show case.

Mertz's Sons, Geo., Port Chester, N. Y.: United States façade department, heating and ventilation.

Revell, Alexander H., & Co., Chicago: Store fixtures and show cases.

Rockwell & Rupel, Chicago, Ill.: File cabinets.

Smith, B. & W. B., New York: Show cases.

Standard Furniture Company, Herkimer, N. Y.: Flat and roll-top office desks and filing cabinets.

Standard Manufacturing Company, Pittsburg, Pa.: Bath tubs, water-closets, lavatory sinks, etc.

Taft, Joseph H., 41 East Twentieth street, New York: Furniture; frieze upon the façade of the exhibit of petroleum.

Wells, A. J., Manufacturing Company, Syracuse, N. Y.: Office furniture.
 Weston Paper and Manufacturing Company, Dayton, Ohio: Stationers' store fixtures.
 Widdicomb, John, Company, Grand Rapids, Mich.: Bedroom furniture.

CLASS 70.—*Carpets, tapestries, and fabrics for upholstery.*

Baldwin Bros. & Co., 435 Fifth avenue, New York: Illuminated leather, hand-tooled.
 Bathamy Worsted Company: Carpets and rugs.
 Farr & Bailey Manufacturing Company, Camden, N. J.: Floor linoleum; plain and decorative burlaps for walls and ceilings.
 Hazzard, R. T., & Co., 814 Pine street, New York: Permanent decorations in burlaps.
 Ivins, Dietz, Metzger & Co., Philadelphia: Carpets and rugs.
 Northwestern Grass Twine Company, St. Paul, Minn.: American matting.
 Richter Manufacturing Company, Tenafly, N. J.: Burlaps.
 Sloan, W. & J., New York: Carpets and tapestries.
 Taft, Joseph H., 41 East Twentieth street, New York: Upholstery of jute, leather, and embroidery.
 Wheeler, Mrs. Candace, 115 East Twenty-third street, New York: Decorative hangings.

CLASS 71.—*Upholsterers' decorations.*

Annin & Co., 99 Fulton street, New York: Flags, etc.
 Lawrence, Stephen Brainard, 291 Fifth avenue, New York: Decorations for public buildings.
 Singer Manufacturing Company, Broadway, New York: Embroidered bed coverings and hangings.
 Stewart Hartshorn Company, East Newark, N. J.: Self-acting window-shade rollers.
 Taft, Joseph H., 41 East Twentieth street, New York: Upholsterers' decorations.
 Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Decorative hangings.

CLASS 72.—*Ceramics.*

Adams, Miss Eva E., 2251 Kenmore avenue, Chicago: Decorated china.
 American Clay Working Machine Company, Bucyrus, Ohio: Auger and sand mold brick machines, brick cutter, brick repress, dies, clay conveyer.
 American Encaustic Tile Company, 1123 Broadway, New York: American mosaic and encaustic tile.
 Amespaugh, Miss Vivian, 569 Bryan street, Dallas, Tex.: Decorated china.
 Art Department of Newcomb College, E. Woodward, director, New Orleans, La.: Decorated china.
 Asbury, Leonore, Cincinnati, Ohio: Pottery designs.
 Atlan Club, 1741 York place, Chicago: Decorated china.
 Aulich, F. B., Chicago: Decorated china.
 Baisley, Mrs. Frank, 100 Rose street, Brooklyn, N. Y.: Decorated china.
 Baker, Constance A., Cincinnati, Ohio: Pottery designs.
 Beach, Martha Edwards, 469 Fairfield avenue, Bridgeport, Conn.: Decorated china.
 Beebe, Miss Grace F., 2 Park square, Boston, Mass.: Decorated china.
 Bischoff, Franz A., Detroit, Mich.: Decorated china.
 Boyd, Miss Myra, Penn. avenue near Lang street, Pittsburg, Pa.: Decorated china.
 Browning, Miss Elsie E., 4613 Filmore street, Pittsburg, Pa.: Decorated china.
 Burrows, Miss M. E., 142 West One Hundred and Twenty-fifth street, New York: Decorated china.
 Candler, Miss M. L., 6 Adams avenue, West Detroit, Mich.: Decorated china.
 Chaussegros, Dr. Clement, Bridgeport, Conn., and Paris, France: Decorated china.
 Cherry, Mrs. K. E., 2302 South Jefferson avenue, St. Louis, Mo.: Decorated china.

- Cole, Miss Lillie E., 3824 Ellis avenue, Chicago: Decorated china.
 Columbia Encaustic Tile Company, Anderson, Ind.: Mosaic tile.
 Cowen, Louise, New York: Decorated china.
 Coyne, Sally E., Cincinnati, Ohio: Pottery designs.
 Crane, Mrs. Anna B., 11 Woodlawn park, Chicago: Decorated china.
 Crook, Russell G., Boston, Mass.: Jungle Book tiles.
 Cross, Mrs. Nellie A., 6525 Woodlawn avenue, Chicago: Decorated china.
 Culp, Mrs. S. V., 219 Post street, San Francisco, Cal.: Over glaze decoration on china.
 Daly, Matt. A., Cincinnati, Ohio: Pottery designs.
 Damon, Miss A. L., Mill Hill avenue, Bridgeport, Conn.: Decorated china.
 Dedham Pottery, Dedham, Mass.: Decorated china.
 Dexter, Miss M. C., 96 Fifth avenue, New York: Decorated china.
 Dibble, Miss Mabel C., 6235 Monroe avenue, Chicago: Decorated china.
 Diers, E. G., Cincinnati, Ohio: Pottery designs.
 Doremus, Mrs. Carolyn B., 77 West avenue, Bridgeport, Conn.: Decorated china.
 Fairbanks, Ella A., 15 Wellington street, Boston, Mass.: Decorated china.
 Fechheimer, Rose, Cincinnati, Ohio: Pottery designs.
 Felton, Edith R., Cincinnati, Ohio: Pottery designs.
 Ferris, Miss Ida, Fostoria, Ohio: Decorated china.
 Field, Mrs. Charlotte E., 523 Throop avenue, Brooklyn, N. Y.: Decorated china.
 Frackelton, Mrs. S. S., 695 Cass street, Milwaukee, Wis.: Decorated gray faience.
 Frazee, Mrs. A. A., 4049 Indiana avenue, Chicago: Decorated china.
 Fry, Mrs. Marshall, 36 West Twenty-fourth street, New York: Decorated china.
 Fry, Marshall T., jr., 36 West Twenty-fourth street, New York: Decorated china.
 Girard, C. C., and Cutler, M., 23 East Thirty-first street, New York: Artistic pottery.
 Gordon, Mrs. Joseph H., 236 Dithridge street, Pittsburg, Pa.: Decorated china.
 Grueby Faience Company, 164 Devonshire street, Boston, Mass.: Works of faience.
 Grueby, H., Ashmont, Mass.: Enamels and kiln burner.
 Hammond, Mrs. Ida Story, Lake City, Minn.: Decorated china.
 Hanson, Jennie E., 58 Prince street, New Haven, Conn.: Decorated china.
 Harrison, Mrs. L. T., 6 Adams avenue, Detroit, Mich.: Decorated china.
 Healey, The Misses M. and E., Washington, D. C.: Decorated china.
 Holzer, Mrs. Philip, 1071 Iranistan avenue, Bridgeport, Conn.: Decorated china.
 Horloecher, Miss Leta, 28 East Twenty-third street, New York: Decorated china.
 Humphrey, Mrs. Edward L., 1741 York place, Chicago: Decorated china.
 Hurd, Harriet B., 304 Golden Hill, Bridgeport, Conn.: Porcelain miniature.
 Hurley, E. T., Cincinnati, Ohio: Designs for pottery.
 Irelan, Mrs. William, jr., Roblin Pottery, San Francisco, Cal.: Pottery.
 Johnson, Miss Ida A., 193 St. James place, Brooklyn, N. Y.: Decorated china.
 Keeler, Mrs. Charles, Paterson, N. J.: Decorated china.
 Keenan, Sophie Gaskill, 5550 Hays street, East End, Pittsburg, Pa.: Ceramic ivory miniature.
 Kendrick, George P., Brookline, Mass.: Designs in pottery.
 Laurence, Sturgis, Cincinnati, Ohio: Designs for pottery.
 Lavalley, John, Boston, Mass.: Moorish tiles designs.
 Lawson, Mrs. Adele V., 110 Fifty-third street, Chicago: Decorated china.
 Leonard, Anna B., 28 East Twenty-third street, New York: Decorated china.
 Leonard, Genevieve, 606 West one hundred and fourteenth street, New York: Decorated china.
 Leonard, Mrs. Harriet N., 6 Adams avenue, West Detroit, Mich.: Decorated china.
 Lindeman, Clara C., Cincinnati, Ohio: Designs for pottery.
 Long, Mrs. Marion W., 5338 Washington avenue, Chicago: Decorated china.
 McCreery, R. M., Marshall Field Building, Chicago: Decorated china.

- McDonald, W. P., Cincinnati, Ohio: Designs for pottery.
- McLaughlin, Miss M. Louise, 2558 Eden avenue, Mount Auburn, Cincinnati, Ohio: Decorated china.
- McLean, Mrs. Howard A., Colonial Building, West Sixty-sixth street, New York: Decorated china.
- McMaster, Miss Mary, 125 McDougal avenue, Detroit, Mich.: Decorated china.
- Marquard, Francis X., 206 West One hundred and twenty-eighth street, New York: Decorated china.
- Mason, Miss Elizabeth, 1672 Broadway, New York City: Decorated china.
- Mason, Miss M. M., 1672 Broadway, New York City: Decorated china.
- Mayhew, Mrs. Julia H., 14 Wellington street, Boston, Mass.: Decorated china.
- Montfort, Miss Helen E., 142 West One hundred and twenty-fifth street, New York: Decorated china.
- Mooreland, Mrs. W. C., jr., 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Morgan, Mrs. Ada White, 1326 Vine place, Minneapolis, Minn.: Decorated china.
- Nasmyth, Mrs. Percy, 387 Baker street, Detroit, Mich.: Decorated china.
- National League of Mineral Painters, 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Neal, Fanny, 355 West Main street, Waterbury, Conn.: Decorated china.
- Neal, Mary Alley, 1435 Broadway, New York: Decorated china.
- Nourse, Mary, Cincinnati, Ohio: Designs for pottery.
- Ohr, George E., Biloxi Pottery, Biloxi, Miss.: Decorated china.
- Olan, Felix, Zanesville, Ohio: Design in tile of American Encaustic Tile Company.
- Osbon, Mrs. E. A., Eighty-fifth street and Madison avenue, New York: Decorated china.
- Osgood, Mrs. Worth, 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Overly, Laura B., 504 Pennsylvania avenue, Pittsburg, Pa.: Decorated china.
- Paist, Mrs. H. B., 608 Nicollet avenue, Minneapolis, Minn.: Decorated china.
- Patton, Miss Lena B., 439 Lafayette avenue, Detroit, Mich.: Decorated china.
- Peck, Miss Grace H., 3848 Elmwood place, Chicago: Decorated china.
- Perley, Mrs. M. E., 219 Post street, San Francisco, Cal.: Overglaze decoration.
- Phelps, Miss Pearle Wanita, 1281 Berger street, Brooklyn, N. Y.: Decorated china.
- Phillips, Mrs. L. Vance, 36 West Twenty-fourth street, New York: Figure and portrait painting on china.
- Phillips, Miss Mary A., 4245 Indiana avenue, Chicago: Decorated china.
- Pierce, Miss E. M., 36 West One hundred and twenty-fifth street, New York: Decorated china.
- Post, Miss Cornelia S., Jersey City, N. J.: Decorated china.
- Prince, Mrs. M. F., 55 Bay Twentieth street, Bath Beach, N. Y.: Decorated china.
- Reed, Geneva, Cincinnati, Ohio: Designs for pottery.
- Robineau, Adelaide Alsop, 114 East Twenty-third street, New York: Decorated china and miniature.
- Rookwood Pottery Company, Cincinnati, Ohio: Underglaze decorated faience.
- Rothenbusch, F., Cincinnati, Ohio: Designs for pottery.
- Rowell, Mrs. Fanny, 95 Fifth avenue, New York: Decorated china.
- Sax, Sara, Cincinnati, Ohio: Designs for pottery.
- Schmidt, Charles, Cincinnati, Ohio: Designs for pottery.
- Sehon, A. D., Cincinnati, Ohio: Designs for pottery.
- Sessions, Mrs. F. M., 228 Fifty-fourth place, Chicago: Decorated china.
- Sharadui, H. W., 121 North Sixth street, Reading, Pa.: Decorated china.
- Shirayamadani, Katara, Cincinnati, Ohio: Designs for pottery.
- Simmons, Harry E., 71 Murray street, New York: Decorated china.
- Sprague, Amelia B., Cincinnati, Ohio: Designs for pottery.
- Steinie, Carrie, Cincinnati, Ohio: Designs for pottery.

Stewart, Mrs. Leroy F., 3400 Forest avenue, Chicago: Decorated china.
 Stewart, Mrs. Henry P., 77 Hamilton avenue, White Plains, N. Y.: Decorated china.
 Stiele, Mrs. Frederick, 3957 Ellis avenue, Chicago: Decorated china.
 Storer, Mrs. Maria Longworth, United States Legation, Madrid, Spain: Art pottery.
 Swift, Mrs. Caroline L., 144 Ruthven street, Roxbury, Mass.: Decorated china.
 Taylor, Mary A., 37 West Twenty-second street, New York: Mineral painting.
 Tiffany Glass and Decorating Company, New York: Designs for pottery.
 Toohey, Sallie, Cincinnati, Ohio: Designs for pottery.
 Topping, Miss Helen M., 4453 Berkeley avenue, Chicago: Decorated china.
 Trenton Potteries Company, Trenton, N. J.: Sanitary earthenware and vitrified china bath tubs and water-closets, etc.
 Trent Tile Company, Trenton, N. J.: Floor, wall, and ceiling tile.
 Valentien, Anna M., Cincinnati, Ohio: Designs for pottery.
 Valentien, A. R., Cincinnati, Ohio: Designs for pottery.
 Van Briggie, Artus, Cincinnati, Ohio: Designs for pottery.
 Volkmar, Charles, Corona, N. Y.: Decorated pottery.
 Wagner, Mrs. M. L., Detroit, Mich.: Decorated china.
 Walter, Mrs. W. C., 5625 Broad street, Pittsburg, Pa.: Decorated china.
 Wareham, J. D., Cincinnati, Ohio: Designs for pottery.
 Wilcox, Mrs. Olive, 1107 North Senate avenue, Indianapolis, Ind.: Decorated china.
 Willcox, Harriet E., Cincinnati, Ohio: Designs for pottery.
 Young, Grace, Cincinnati, Ohio: Designs for pottery.
 Zeublin, Mrs. Henrietta C., 6052 Kimbark avenue, Chicago: Decorated china.
 Zettle, Josephine E., Cincinnati, Ohio: Designs for pottery.

CLASS 73.—*Glass and crystal.*

American Optical Company, Southbridge, Mass.: Optical goods.
 Bay State Optical Company, Attleboro, Mass.: Optical goods and machines for manufacturing same.
 Chambers, Inskeep & Co., 88-90 Wabash avenue, Chicago: Ophthalmometer.
 Holophane Glass Company, 1 Broadway, New York: Glass globes.
 Hygienic Optical Company, 1147 Broadway, New York: Optical goods.
 King, Julius, Optical Company, 2 Maiden lane, New York: Optical goods.
 Le Maitre Optical Company, 225 West Forty-second street, New York: Optical goods and machines for manufacturing same.
 Long, Adelaide Husted, 96 Fifth avenue, New York: Glass window.
 Lubin, S., Philadelphia, Pa.: Lenses.
 Manhattan Optical Company, New York: Spectacles.
 Neufeld, Emil M., 228 West One hundred and thirtieth street, New York: Lens-grinding machine, etc.
 New York Novelty Company, 907 Hancock street, Brooklyn, N. Y.: Imitations of precious stones.
 Pittsburg Plate Glass Company, 62 Vandam street, New York: Plate glass.
 Simmons, John, Company, Center street, New York: Optical goods.
 Spencer Optical Company, Center street, New York: Optical goods.
 Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Glass mosaic altars and altar furnishings; mausoleums and monuments.

CLASS 74.—*Apparatus and processes for heating and ventilation.*

American Radiator Company, Boston, Mass.: Radiators, furnaces, etc.
 Ashton Valve Company, Boston, Mass.: Valves and registering apparatus.
 Barber, A. C., Manufacturing Company, Chicago: Oil stoves.

- Beckwith, P. D., Estate of, Dowagiac, Mich.: Heating stoves, "Round Oak."
- Board of schools, New York: Drawings, etc., illustrating the methods of heating and ventilating the public schools of the city of New York.
- Clark, George M., & Co., 72-74 Lake street, Chicago: Gas and gasoline cooking and heating stoves, ranges, etc.
- Cortland-Howe Ventilating Stove Company, Cortland, N. Y.: Stoves. Chicago, 1893, medal.
- Cox, Abram, Stove Company, Philadelphia, Pa.: Heating and cooking apparatus.
- Crane & Co., Chicago: Valves.
- Goodridge, Judson A., Company, New York: Steam specialties.
- Griswold Manufacturing Company, Erie, Pa.: Kitchen utensils, and oil heating stoves.
- Hart & Crouse Company, Utica, N. Y.: Steam and water heating boilers.
- Herendeen Manufacturing Company, Geneva, N. Y.: Water boilers, radiators, and valves.
- International Heater Company, New York and Utica, N. Y.: Heating boilers, stoves, etc.
- Kieley & Muler, Thirteenth street, New York: Valves, cocks, and damper regulator.
- The Lunkenheimer Company, Cincinnati, Ohio: Valves.
- Magee Furnace Company, Boston, Mass.: Cooking ranges, water heaters, combination warm-air and hot-water furnaces.
- Mahoney Manufacturing Company, Troy, N. Y.: Heating boilers.
- Michigan Stove Company, Detroit, Mich.: Heating stoves and ranges.
- Model Heating Company, Philadelphia, Pa.: Cast-iron sectional boilers, for low-pressure steam and hot-water heating.
- Mott, The J. L., Iron Works, New York: Steam boilers, hot-water heaters, steam and hot-water radiators.
- New York Blower Company, Bucyrus, Ohio, and 39-41 Cortlandt street, New York: Heating and ventilating engines; blowers, fans, heaters.
- Philadelphia Hardware and Malleable Iron Works, Ninth and Jefferson streets, Philadelphia, Pa.: Radiators, registers, and malleable iron fittings.
- Phillips & Clark Stove Company, New York: Range.
- Powers Regulator Company, Chicago: Automatic temperature-regulating apparatus.
- Rochester Radiator Company, Rochester, N. Y.: Economical heating apparatus.
- Scaife, William B., & Sons, Pittsburg, Pa.: Ranges, boilers, and expansion tanks.
- Smith & Anthony, 48 Union street, Boston, Mass.: Range.
- Stevenson, Thomas Roberts, & Co., Philadelphia, Pa.: Stoves and ranges.
- Troy Nickel Works, Albany, N. Y.: Stove hardware.
- Tuttle & Bailey Manufacturing Company, 83 Beekman street, New York City: Registers and ventilators.
- Webster, Warren & Co., Camden, N. J.: Vacuum system of heating.
- Wade, Rufus R., State House, Boston, Mass.: Plans for heating public buildings.
- Wagner Manufacturing Company, Warren, Ohio: Kitchen utensils.

CLASS 75.—*Apparatus and methods, not electrical, for lighting.*

- Adams, Thomas, jr., box 225, Brooklyn, N. Y.: Automatic gas lighters.
- Cassidy & Son Manufacturing Company, 133 West Twenty-third street, New York City: Gas and electric fixtures.
- Holophane Glass Company, 1 Broadway, New York: Globes, reflectors, shades, etc.
- Kitson, Arthur, Philadelphia, Pa.: Arc lamps giving an incandescent light from sprayed oil.
- Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Electric fixtures, favrile glass vases, tableware, globes, and shades.

GROUP XV.—DIVERSIFIED INDUSTRIES.

CLASS 92.—*Stationery—Machinery, processes, and products.*

- American Lead Pencil Company, New York: Lead pencils.
- Blair Fountain Pen Company, 163 Broadway, New York: Fountain pens and fluid pencils. Ink of all colors and for copying.
- Caw's Pen and Ink Company, 168 Broadway, New York: Fountain pens and writing inks.
- Crane Brothers, Westfield, Mass.: Linen ledger and record papers.
- Hinde & Dauch, 12 White street, New York: Climan bottle wrappers, made of sized paper.
- Inman American Box Machine Company, Amsterdam, N. Y.: Paper-box manufacturing machinery.
- National Cash Register Company, Dayton, Ohio: Cash registers.
- Neostyle Envelope Company, New York: Envelope machine.
- Pomeroy Brothers, East Newark, N. J.: Inks, mucilage, sealing wax, rubber stamps, etc.
- Smith, R. H., Manufacturing Company, Springfield, Mass.: Easy sign markers and office stamps.
- Tenny, J. F., & Co., Chicago: Rubber stamps.
- Tiffany & Co., Union Square, New York: Stationery; steel, copper-plate, and intaglio printing.
- Union Bag and Paper Company, Chicago, Ill.: Paper bags.
- United States Playing Card Company, Cincinnati, Ohio: Playing cards.
- Waterman, L. E., Company, New York: Fountain pens.
- Weston Paper and Manufacturing Company, Dayton, Ohio: Paper specialties and stationery.
- Whiting Paper Company, Holyoke, Mass., and New York: Writing papers, envelopes, and novelties.

CLASS 93.—*Cutlery—Equipment, processes, and products.*

- American Shearer Manufacturing Company, Nashua, N. H.: Hair clippers.
- Brown & Sharpe, Providence, R. I.: Hair clippers.
- Gem Cutlery Company, 670 Hudson street, New York: Gem safety razor.
- Jordan, A. J., St. Louis, Mo.: Safety razors.
- Peck & Snyder, 126 Nassau street, New York: Ice and roller skates.
- Tiffany & Co., Union Square, New York: Silversmiths' small ware.

CLASS 94.—*Silversmiths' and goldsmiths' ware—Appliances, processes, and products.*

- Alvin & Co., New York: Silver-mounted pattern.
- Attleboro Jewelry Company, Attleboro, Mass.: Jewelry.
- Gorham Manufacturing Company, Broadway and Nineteenth street, New York: Silver and gold smiths' ware.
- Sandberg, F. W., Oakpark, Chicago: Gold and silversmiths' work, done wholly with the hammer.
- Taylor, S. S., Hartford, Conn.: Burnishing tools.
- Tiffany & Co., Union Square, New York: Gold and silver smiths' ware, enameled work, etc.

CLASS 95.—*Jewelry—Equipment, processes, and products.*

- Attleboro Manufacturing Company, Attleboro, Mass.: Jewelry and novelties.
- Azure Mining Company, 172 Broadway, New York: Turquoises, cut and rough, and turquoise jewelry.

Barber Jewelry Company, 36 Gold street, New York: Pyrites jewelry and alligator teeth.

Klapp, Mrs. Wm., The Plaza, Chicago, Ill.: Jewelry.

Rider, S. A., Jewelry Company, 705 Washington street, St. Louis, Mo.: Jewelry and fancy goods.

Sandberg, F. W., Oak Park, Chicago, Ill.: Metal work done wholly with the hammer.

Tiffany & Co., Union Square, New York: Fine jewelry and jewelry set with precious stones; lapidary work; cut and uncut semiprecious stones.

CLASS 96.—*Clock and watch making—Equipment, processes, and products.*

Automatic Electric Clock Company, 231 South Canal street, Chicago: Automatic electric clocks.

Brandt-Dent Company, Watertown, Wis.: Cash register.

Bundy Manufacturing Company, Binghamton, N. Y.: Time recorders (clocks).

Chicago Time Register Company, Chicago: Time registers, clocks.

Ingersoll, Robert H., & Bros., 67 Cortlandt street, New York: Watches and specialties.

International Computing Machine Company, Chicago: Comptometer.

CLASS 97.—*Works of art in bronze, cast iron, and wrought iron, repoussé work.*

Ames, Mrs., Baltimore, Md.: Works of art in bronze.

Baur, Theodore, New York: Works of art in bronze.

Bissell, George E., 30 East Fourteenth street, New York: Works of art in bronze.

Bitter, Karl, Weehawken, N. J.: Works of art in bronze.

Bonnard, Henry, Bronze Company, 430 West Sixteenth street, New York: Castings in bronze and other metals.

Boyle, J. J., Watt street, Philadelphia, Pa.: Works of art in bronze.

Bracken, Julia M., Studio Building, Chicago: Works of art in bronze.

Frolich, F. H., 1321 Broadway, New York: Works of art in bronze.

Hondon, Jean Antoine, New York: Works of art in bronze.

Linder, H., 44 West Thirtieth street, New York: Works of art in bronze.

Lopez, Charles, 249½ East Thirteenth street, New York: Works of art in bronze.

Moretti, G., 118 West Thirty-eighth street, New York: Works of art in bronze.

Remington, F., 301 Webster avenue, New Rochelle, N. Y.: Works of art in bronze.

Sandberg, F. W., Oak Park, Chicago: Works of art in gold and silver, made wholly with the hammer.

Storck, George H., 123 Fifth avenue, New York: Works of art in bronze.

Storer, Mrs. Maria Longworth, United States legation, Madrid, Spain: Works of art in bronze.

Tiffany & Co., Union Square, New York: Works of art in bronze and iron; repoussé work.

Tiffany Glass and Decorating Company, 333 Fourth avenue, New York City: Tablets and bronzes.

Toberentz, R., New York: Works of art in bronze.

Vonnah, Bessie Potter, New York: Works of art in bronze.

Ward, J. A., 119 West Fifty-second street, New York: Works of art in bronze.

Winans, Walter, Surrenden Park, Ashford, Kent, England, and New York: Works of art in bronze.

Winslow Bros., Chicago: Works of art in bronze.

Wuertz, E., New York: Works of art in bronze.

CLASS 98.—*Brushes, fine leather articles, fancy articles, and basket work.*

Barnard, George, & Co., 212 Vanderbilt Building, New York: Leather goods.

Bissell Carpet Sweeper Company, Grand Rapids, Mich.: Carpet sweepers.

Brunswick-Balke-Collender Company, New York and Chicago: Articles in ivory.
 Gorham Manufacturing Company, Broadway, New York: Fine leather articles, with mountings of gold and silver.
 Grasman & Gerlach, Jacksonville, Fla.: Leather goods.
 Howard's, S. E., Son, & Co., Boston, Mass.: Razor strops.
 Jordan, A. J., St. Louis, Mo.: Strops; wood and other cases.
 Los Angeles Art Leather Company, Los Angeles, Cal.: Leather specialties.
 Tibbe, H., & Son, St. Louis, Mo.: Corncob pipes.
 Tiffany & Co., New York: Fine leather articles, dressing cases, bags, pocketbooks, portfolios, cigar and cigarette cases.
 Young & Robinson, Pullman Building, Chicago: Machine for making brushes.

CLASS 99.—*India-rubber and gutta-percha industries—Equipment, processes, and products.*

American Wringer Company, 99 Chambers street, New York: Clothes wringers.
 Arawani Mills, I. E. Palmer, proprietor, Middletown, Conn.: Hammocks.
 New Departure Trunk Company, Sumner street, Boston, Mass.: Patent trunks.
 Weston Paper and Manufacturing Company, Dayton, Ohio: Combined chair and hammock.

CLASS 100.—*Toys.*

Barnard, George, & Co., 212 Vanderbilt Building, New York: Sporting goods.
 Crawford, McGregor & Canby, Dayton, Ohio: Golf clubs.
 Peck & Snyder, 126 Nassau street, New York: Ice and roller skates for hockey, polo, la crosse, etc.
 United States Playing Card Company, Cincinnati, Ohio: Games.
 Spalding, A. G., & Bro., Nassau street, New York: Implements used in athletic sports.
 Spaulding Manufacturing Company, Chicago, Ill.: Sporting goods in wood.
 Wright & Ditson, Boston, Mass.: Lawn tennis goods.



I-3. LOOKING NORTH, WEST AISLE, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.
COLLECTIVE EXHIBIT OF FURNITURE ON LEFT.



1-5. COLLECTIVE EXHIBIT OF STATIONERY, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.

REPORT OF THE DEPARTMENT OF VARIED INDUSTRIES.

Hon. FERDINAND W. PECK,

United States Commissioner-General, Chicago, Ill.

DEAR SIR: I submit herewith the report of my work in connection with the organization and administration of the department of varied industries.

I wish to take this opportunity to thank you for the consideration and courtesy you have extended to me on all occasions.

Your support and advice and commands throughout the entire work were such that I am alone responsible for any failures and you are the largest sharer in the successes.

In rendering this report I have endeavored to give only such details as may help other commissions in future expositions abroad, and I trust that I have succeeded in my undertaking.

I remain, sir, very sincerely, yours,

M. H. HULBERT,

Director of Varied Industries.

PARIS, *February 5, 1901.*

PRELIMINARY WORK.

DATE OF APPOINTMENT AND DEPARTMENT COVERED.

Your director in the department of varied industries received his appointment March 4, 1899, and reported March 15, 1899, to the New York office, where he obtained all the information of record there.

The department was found to contain classes 66 to 75 and 92 to 100 of the French classification.

This classification of 19 classes, when analyzed, was found to contain 113 distinctly different industries. A thorough investigation was at once made and the best authorities consulted in order to determine the relative commercial value, from an export standpoint, of the several industries, and to ascertain the relative amount of exhibit space which should be devoted to each. This work covered a period of one month.

Your director then reported to the Chicago office and was handed the applications for space which had accumulated. They aggregated about 90,000 square feet of floor space, but covered only a few of the industries included in the classification, and duplicated heavily in many of the others, thus reducing the number of square feet available, as it would not be advantageous to exhibit in the small space allowed this department many duplicates of the same line of goods. Many of the important industries were found to be entirely unrepresented. This scarcity of applications in many of the most important lines of trade was largely due to the great prosperity among all manufacturers. The rush of business did not in many cases leave the manufacturers time to prepare exhibits, and tended to make them forget that an export trade, during ordinary years, is a great help in consuming the maximum production of the factories. The nature of these deficiencies, and the reasons why whole industries were missing, were of great importance in determining the best policy to be pursued.

The applications were then looked over from a financial standpoint, and it was found that more than one-fourth of the firms requesting space were not financially capable of making representative exhibits. This again reduced the number of original applications which it would eventually be practicable to use.

A few of these original applicants were interviewed to determine to what extent the number of square feet stated in the applications was necessary for the proper display of the firms' merchandise. These few test cases proved that the amount asked could not be relied upon, except as indicating the largest amount of space which they could possibly fill, while the actual amount necessary was often not over 10 per cent of the total applied for.

Thus the original number of feet available was reduced by about one-quarter because of financial irresponsibility, much of the rest by 90 per cent because the manufacturers had applied for that much more space than they could use to advantage, and the last reduction became necessary because it would be unproductive of commercial benefits to the country at large to display many duplicates of the same goods. This brought the total number of square feet practically available from the applications to about 8,000.

LIMITATIONS.

These deductions were an important guide, as the entire space assigned to the department of varied industries by the French authorities was 26,576 square feet, including the aisles, or about 18,000 square feet of regular exhibit space, net. In this space the merchandise of 113 industries had to be displayed, giving a little less than 150 square

feet to each industry, which, under ordinary methods of installation, would not have properly accommodated even one of the manufacturers in that industry; and yet, in addition to the applications then on file, there had to be considered the space to be reserved for important industries which were not then covered by any applications.

The expense of the department was the next consideration. The appropriation made was—

Experts	\$12, 025
Clerks.....	1, 300
Traveling expenses.....	6, 385
Packing and freight	2, 000
Façades.....	10, 000
	<hr/>
	33, 210

And on April 8 an additional amount was appropriated by you for electricity of \$3,500, making a total of \$36,710.

While this was no doubt as much as it was safe to set aside from the general funds at your disposal, it was evidently inadequate to carry through an exhibit on the lines necessary to the proper exploitation of the industries under ordinary methods of organization, particularly so as the manufacturers who took part in previous international expositions abroad had been financially helped by the United States Government commissions.

SUGGESTIONS FOR ORGANIZATION.

After carefully considering the objects to be accomplished and the various limitations existing, it was deemed best to perfect a plan that would as far as possible include the following:

To cover the 80 important industries of the 113 included in this classification.

To perfect a plan whereby the manufacturers could participate who did not desire to spend over \$500 or \$1,000, the smallest amount being ordinarily from \$3,000 to \$5,000 for a simple installation where a representative is sent to install and exploit the merchandise during the Exposition.

To have the majority of show cases uniform, and to have all the fronts of booths abutting the circulatory aisles of uniform design and construction.

To have the general plan of installation such that in the 18,000 feet of floor space as much additional wall space as possible should be realized and arranged so that those manufacturers whose goods were adaptable to wall display should use wall space only, and the floor space adjoining should be used for goods not adaptable to wall display. To cover these points the following plan was proposed:

To assign to all the branches of the following industries the amounts

of space here stated: Jewelry, 2,400 feet; stained glass, 1,600 feet; heating and ventilating, 2,000 feet; stationery, 2,000 feet; india rubber, 1,500 feet; furniture and decoration, 2,500 feet; miscellaneous, 6,000 feet.

To use the main circulatory aisles for the display of floor coverings, façades, and decorations as exhibits under class 66, and to use show cases for the double purpose of displaying merchandise and as exhibits typifying different modern styles of cases.

To form so-called collective or combination exhibits for the first six industries mentioned above on the following bases: An expert to be appointed for each industry, whose salary and traveling expenses were to be paid from the funds of your Commission for a period of three months. An estimate made of the maximum cost of carrying through the collective exhibit of each industry, which estimate was to include the expert's salary after the three months paid by the Government, the expense of transporting the exhibits from New York to the Exposition and return to New York, all expenses of installation, show cases, electric wiring and lighting, cleaning, general care, expense of flooring, partitions, storage of cases, display signs, general decorations, façades, labor, clerks, etc.

From this estimate, and from the number of square feet available for each industry, a cost price to exhibitors per square foot was to be fixed. All money from exhibitors was to be paid to a trust company, to be disbursed by a trustee selected by the exhibitors whose money he was to hold in trust.

The expert was to devote the three months while in the pay of the Government to closing contracts for space with manufacturers, and it was expected that at the end of that time sufficient funds would be in the hands of the trustee to make each collective exhibit then self-sustaining.

In accepting or soliciting exhibits each expert was to avoid duplications of the same lines as far as possible, so that each collective exhibit, as a whole, should represent the industry in all its branches, composed of the representative manufactures in each line of goods. The experts were to report regularly and be under the control of your director.

The space in the department not set aside for these collective exhibits was to be negotiated for directly between your director and the exhibitors. There was to be no charge to the exhibitor for this space, except for flooring, partitions, and colonnade, it being deemed best to build for the exhibitors the partitions and colonnade (or front of all booths), so that they would be uniform throughout in both design and construction.

This general plan was submitted to you April 15, 1899, and received the approval of your director in chief and yourself April 18, 1899.

ORGANIZATION.

APPOINTMENTS, ASSISTANTS, AND EXPERTS.

Based on the foregoing plan, your director commenced the definite organization of the working force of the department, and recommended to you from time to time, as the needs of the department required, the appointment of the following assistants:

W. E. Crist, appointed assistant director October 2, 1899. Had under his particular supervision all matters connected with transportation.

Charles E. Spratt, appointed May 13, 1899; transferred to collective exhibit pay-roll December 1, 1899. Expert for the collective exhibit of furniture and decoration.

W. F. Wolf, appointed June 14, 1899; transferred to collective exhibit pay roll September 15, 1899. Expert, collective exhibit, heating and ventilating.

E. W. Dayton, appointed August 17, 1899; transferred to collective exhibit pay roll November 15, 1900. Expert, collective exhibit, stationery.

A. J. G. Hodenpyl, appointed June 26, 1899. Expert, collective exhibit, jewelry.

H. C. Pearson, appointed June 14, 1899. Expert, collective exhibit, india rubber.

C. E. Boillot, appointed February 5, 1900; transferred to collective exhibit pay roll July 1, 1900. Clerk, specially assigned to work in connection with shipping of merchandise from New York.

L. B. Fulton, appointed May 1, 1900. Clerk.

Oscar Moser, appointed March 9, 1900. Clerk, specially assigned to looking after merchandise arriving in the Exposition.

Leon F. Rubens, appointed November 1, 1899. Installation expert, specially assigned to designing the installations for the various collective exhibits.

Jacques Laferme, appointed March 10, 1900; on pay roll collective exhibit. In charge of the installation of the collective exhibit of furniture.

George Laferme, appointed April 1; on pay roll of the collective exhibit. Assistant to Jacques Laferme.

Clarence Thurston, appointed September 15 as assistant to W. E. Crist.

J. D. Andrews, appointed May 23, 1900. Collector for the trustee of the collective exhibit funds; on pay roll collective exhibit.

Thomas Eagleson, appointed March 15, 1900, on pay roll of collective exhibit, and assigned to the work of the installation of the collective exhibit of heating and ventilating.

F. B. Spencer, appointed July 15, 1900, on pay roll of electricity account, in charge of the electric-lighting plant.

W. R. Hulbert, appointed July 5, on pay roll of electricity account, as assistant to F. B. Spencer.

J. M. Durant, appointed May 15, 1900, on collective exhibit pay roll, and assigned specially to the exploitation of the exhibit in the collective exhibit of heating and ventilating. (Resigned July 31.)

F. M. Hall, appointed August 16, 1900, on pay roll of the collective exhibit, as assistant to J. M. Durant.

E. Rochette, appointed August 1, on pay roll of collective exhibit, to replace J. M. Durant, resigned.

W. A. Ducette, appointed May 12, 1900, on pay roll of cleaning bureau, and assigned as overseer of the janitors.

David W. Seligman, juror, class 66.

Roger Riordan, juror, class 67.

Francis Kimbel, juror, class 69.

Lazard Kahn, juror, class 74.
 A. Vignos, juror, class 93.
 A. J. G. Hodenpyl, juror, class 94.
 Charles F. Greene, juror, class 95.
 A. G. Stein, juror, class 96.

JANITOR FORCE.

In order that the section should be at all times orderly and cleanly, the exhibitors were asked to subscribe to a fund handled by the trustee of the collective exhibits funds, Mr. C. I. Drake, to sustain a uniformed janitor force. This force was to clean all the section, including the booths of the exhibitors, and thus relieve the exposants of this part of the care of their spaces. The cost averaged 50 cents per exhibitor per day. This bureau was organized May 1, 1900, and was composed of a foreman; one expert wood polisher and cabinetmaker, who went carefully over all the parquetted flooring and woodwork, repaired any breakages, and repolished each piece, making one complete round every ten days; one expert plasterer, who went over all the staff work, rewhitewashed, and retouched the gilt work, making a complete tour every month; one woman who wiped off all the glass every day and washed enough to make the complete circuit once a week; and five men who did the heavy cleaning.

The work started as soon as the building was closed. The covers were then put on all the exhibits and the space made ready to sweep. At 5 a. m. the sweeping was done, and from 6 a. m. the dusting. Thus the spaces were entirely clean by 9 a. m., after which hour a relay service of four men was kept on until the closing hour. These men went over all the section every fifteen minutes, picking up loose papers and generally keeping the section in order.

GUARDS.

There were assigned to this department six of the regular guard force. Three were on duty from 8 a. m. to 4 p. m., and three from 4 to 11 p. m. From 11 p. m. to 8 a. m. two night watchmen were on duty, each supplied with a watchman's clock. Each clock required winding at ten stations. This necessitated a complete round for each man every twenty minutes.

ADMINISTRATION.

TRAVEL.

The quantity of space asked for by the exhibitors on the original applications was so much larger than they could advantageously use, and there remained so many industries for which there were no applications, that considerable traveling was necessary in order to personally interview the members of firms who had already applied for space, and determine the number of feet actually necessary, and to solicit

firms who were needed to complete a comprehensive showing of the industries important to the exports of the United States. To this end fifteen trips were made by your director, and all of the important cities east of the Mississippi were covered. Five hundred and sixty firms in various lines of business were interviewed, some successfully and others not. These were all firms outside those assigned to collective exhibits, as the expert in charge of each collective exhibit covered all the territory necessary in order to personally see the important manufacturers in each line.

INDUSTRIES NOT REPRESENTED.

Among the industries desirable for exhibition was that of cut glass. After making every effort possible, including a proposition to form a small collective exhibit and have all the manufacturers contribute equally to the expense and to the display, it was abandoned. The larger firms insisted that they could not cut enough glass for their regular orders and for the Exposition in less than two years.

A loan exhibit of silver and gold prize cups, as a retrospective display of the silversmith's art, was also attempted through one of the leading manufacturers in that line, but had to be abandoned on account of the pressure of his regular business.

A large exhibit of bronzes was promised by a leading manufacturer and the contract signed. It did not materialize, owing to the unwillingness of some of his clients to loan several large pieces which were to have been the leading feature of his display. He was also, no doubt, disheartened by refusal on our part to allow him to display in the exhibit a life-size statue, cast in gold, of an actress.

A large, comprehensive exhibit of all the various lines of cutlery was promised by a combination, or so-called trust. The work on the exhibit had actually commenced, but late in the fall they had financial difficulties and the exhibit had to be abandoned. It was then too late to interest enough other manufacturers to get together an exhibit of this line sufficiently important.

Under this subtitle of "Industries not represented" it seems proper to include optical instruments and lenses, for while the greatest care was taken and only such firms were awarded space as were well rated and highly accredited by financial agencies, many of the firms who were accorded space had men in Paris as their authorized representatives, with powers of attorney, who used the exhibit solely to examine eyes and sell cheap eyeglasses at retail for as high a price as they felt their customer would pay. They tried to use all the methods known to "optical fakers" to entice strangers into their booths. The spaces having been awarded to them gave these firms some rights which had to be respected, but they were made to obey every rule that could justly be applied to their case. They were, however, objectionable

from beginning to end, and your director is convinced that in any exposition held in a foreign country too much care can not be taken to avoid manufacturers receiving space who have applied for it in order to accommodate customers and who make a business of using expositions in this manner.

EXHIBITORS HAVING INDIVIDUAL SPACES.

It had been decided, as already stated, to have all the fronts of all the booths of the individual exhibitors of uniform design, and to have the separating partitions of uniform height and construction. An estimate was made and the cost fixed at \$10 a running foot for the front of all booths, and 20 cents a square foot for partitions, and this price, after all bills had been paid, proved nearly exact. With this uniformity of construction in mind, it became necessary to send to all persons who showed an inclination to exhibit photographs of the design as shown by plate 2, and explain that the construction would be put up for them and that the moneys to cover the cost must be deposited in advance with the trustee. More or less difficulty was encountered on this account, because several manufacturers had in mind an installation the peculiar nature of which would, they hoped, make their particular exhibits stand out above all the rest, not necessarily because of any particular merit, but because of their conspicuousness.

This plan of installation added much, therefore, to the work of organization; but the trouble was amply compensated by the result. The idea was that in a foreign country it was better to keep prominent before the visiting public throughout the entire section that it was one exhibit of the United States, in which each manufacturer displayed his goods, rather than a disconnected, inharmonious competition between the manufacturers of the United States as to who could design the most conspicuous booth in which to display his wares. It was thought that much more benefit would come from the success of the United States exhibit as a single large display than from the success of any two or three individual firms.

To fill the space set aside for individual exhibits (those not in collective exhibits), your director, in addition to the traveling and personal interviews referred to, mailed something over 3,800 circulars and 1,000 typewritten letters, asking the cooperation of manufacturers. This part of the work lasted as late as November, for each month brought withdrawals of contracts already made, and thus the space required refilling. Some withdrawals were on account of death, some because of financial difficulties, others at the last moment found themselves too busy to participate, while many withdrew who would give no reasons.

COLLECTIVE EXHIBITS.

The collective exhibits having one design and color of show case throughout also helped to emphasize the idea of uniformity, in addition to fulfilling the other purposes for which they were created. The general work of organizing the collective exhibits consisted in the appointment of an expert who should have immediate charge of all the details of the display of the particular industry assigned to him. In each case a man was chosen whose prominent connection with that industry would give the necessary confidence to the manufacturers in the success of the undertaking.

Your director then wrote or interviewed the editors of all the leading trade papers devoted to these industries, explained the plan, and received their promise to exploit the idea in the columns of their papers. A series of five articles was then written and sent weekly to these publications. In addition to this, the officers of the important trade organizations were interviewed and their support obtained, as well as the boards of trade of the various cities, as far as practicable.

At the same time the several experts were interviewing the manufacturers and concluding contracts, with the understanding that the payments should be made as soon as called for by the trustee. When sufficient contracts had been signed to insure the financial success of the exhibit the demand for payment was made.

During the administration your director dictated 2,390 letters and received 2,956.

COLLECTIVE EXHIBIT OF STATIONERY.

This exhibit included classes 92, 93, and 99 (except the india-rubber goods), and was in charge of E. W. Dayton. It was designed to display and exploit all the various kinds of merchandise that are found in the American retail stationery store, including the large and interesting variety of patented novelties for which the United States has such a world-wide reputation.

Submitted herewith is the report of E. W. Dayton, expert for the collective exhibit of stationery and allied industries.

NEW YORK, February 1, 1901.

MR. M. H. HULBERT,

Director of the Department of Varied Industries,

United States Commission, Paris Exposition 1900.

DEAR SIR: In compliance with your instructions of September 24, 1900, I beg to submit the following report for my section of your department. In connection with this report I desire to record my appreciation of the assistance which I constantly received from you during the eighteen months when I was engaged in this enterprise. Your advice and suggestions were always available and helped greatly to secure for my industry its notably successful exhibit.

I wish also at this time to acknowledge the many official courtesies and the frequent assistance rendered me by the Commissioner-General, the Hon. Ferdinand

W. Peck, and the assistant commissioner-general, Mr. Benjamin Woodward, both of whom were ever ready to further whatever interest of my department could be helped by their influence.

As a business man actively identified with the industry which I represented at this Exposition, I wish to place on record my belief that no group of officials could have been more zealously devoted to the interests of their Government and their fellow-citizens whose arts and industries were exhibited than those whose names I have mentioned. A number of exhibitors in my department were directly benefited by the personal intervention of one or other of those officers at critical moments when I needed their help.

Yours, respectfully,

EDWIN W. DAYTON,
Expert for Stationery and Allied Industries, Class 92.

REPORT OF EDWIN W. DAYTON, EXPERT FOR CLASS 92.

Having accepted the appointment of expert and superintendent of the stationery exhibit early in August, 1900, I outlined a plan whereby it was intended to make as comprehensive an exhibit of the industry for the United States as the circumstances would permit.

I found the space originally allotted to this industry entirely inadequate, but with the sympathetic help of Director Hulbert this difficulty was overcome and a relatively generous space in the most desirable location was secured. Armed with this material inducement, I proceeded to interest the trade in the enterprise. It soon became apparent that the only way possible to secure a representative showing was to organize a collective exhibit where a harmonious installation and minimum expense could be secured. The great distance from home prevented some of the most prominent houses from participating until it became known that a relatively small initial expenditure would secure a dignified and attractive installation and cover all expenses of transportation out and back, care, light, advertising, exploitation, etc. To a busy manufacturer, 3,000 to 7,000 miles from Paris, it was often impossible to undertake an individual and independent exhibit; but by joining in the collective exhibit no trouble to the exhibitor was involved beyond the preparation and packing of the goods. The exhibit would be received in Paris by a practical stationer known to the manufacturer and personally familiar with his goods. It would therefore be certain of intelligent arrangement for display and professional knowledge to secure its proper consideration. The annoyance of constantly recurring unforeseen expenses would be avoided, and all of the advantages of the seven months' exhibition could be secured with no more trouble than would be incurred in the preparation of an ordinary magazine advertisement.

Convinced that this would be the only practical plan for a stationery exhibit, the suggestion was adopted and the work carried out accordingly. The plan involved the necessity for a careful selection among the multitude of manufacturers in order to secure the best possible showing for each branch of the trade, and I believed it wiser to give one thoroughly representative house enough space to encourage the preparation of a fine exhibit rather than to crowd a dozen competitors into the same space, to the sacrifice of all interests except numbers.

The stationery trade of the United States had never before attempted any foreign exhibit of their manufactures beyond a very small showing of one or two branches of the industry at Paris in 1889; and the houses (ink manufacturers) which exhibited at that time had felt so aggrieved at the treatment they received that they had mutually agreed never again to exhibit in France.

The paper trade in 1899 and the early part of 1900 was greatly disturbed by marked fluctuations in prices quite unfavorable to the opening of foreign business, and strong pressure had been brought to bear upon the lead-pencil houses to boycott the Exposition in consequence of the Dreyfus case.

As a result of these and other kindred difficulties, there would have been no stationery exhibit at all had I not possessed sufficient personal influence with the trade to overcome the objections and induce the favorable reconsideration of the negative decision at which I found most of the leading firms had arrived.

The Stationers' Board of Trade indorsed my appointment, and a number of prominent houses hastened to express their gratification with the Commissioner-General's selection.

Finding it necessary to see the manufacturers personally, I undertook several extensive journeys through the Middle West and New England sections in the late summer of 1900—not alone to arouse the interest of many desirable exhibitors, but also to investigate a large number of applications turned over to me when I was appointed, and which were of doubtful character. With regard to the latter, I may remark that most of them were mere catchpenny schemes, masquerading under some misleading name. Only the greatest vigilance prevented these trivial applicants from crowding out entirely the really representative houses.

The entire space at my disposal might have been given up to people unknown to the stationery trade of the country and yet who claimed to be affiliated with its interests.

FINE WRITING PAPERS.

The most extensive manufacturers of writing papers in the United States are the Whiting Paper Company, of Holyoke and New York. The superior qualities, enormous variety, and wide range of prices make their products the most remarkable in the world. Overwhelmed with more home orders than could be filled, this company was not anxious to exhibit, and had decided not to do so. I first induced them to alter this decision and then to accept about one-fifth of the space they demanded. The energetic head of the New York house, Mr. J. M. Tate (awarded gold medal as collaborator) superintended the preparation of this exhibit, and, when installed in its splendid mahogany case on the main aisle of the Invalides, it was a source of pride to every American who passed. The jury of awards gave this company the grand prix, the first ever awarded to American writing papers. The records show the output of this company to be greater than any other in the world. Their medium and higher priced lines can readily compete with European papers, which range at about the same prices for similar grades, and lack the great variety of tints shown by the Whiting Company. Their black bordering of mourning papers is much better than the foreign, but the French excel in very light weight papers (such as those intended for foreign correspondence) and on these their prices are lower. The finest handmade papers for correspondence purposes are now found in Italy, where also the most beautiful watermarks are seen. The Italian paper exhibit was remarkable and a collection of the elaborate portrait watermarks was a revelation of the possibilities of the Dandy roll. The most skillful wire weavers in the world are in the Italian mills, and their comrades who produce the handmade papers are nearly in the same class. But these papers are excessively dear. The fine grades of both the French and Italian papers are beautifully wrapped and boxed, and the Whiting styles reflect strongly their fashion.

The French style of introducing a number of different sizes and colors of writing paper and envelopes in one box is not adapted to American ideas. The old difficulty of securing well-gummed envelopes does not seem any nearer being solved there than here. European and American methods of wrapping and boxing fine papers are quite similar.

LEDGER PAPERS.

The greatest American maker of ledger papers is the house of Crane Brothers, Westfield, Mass., and this line (awarded the gold medal) is unrivaled anywhere. So remarkably superior are the qualities of the Crane "gold-medal papers" that

their fame had traveled ahead of them, and Parisian stationers came to the Exposition looking for "those Crane papers which people are beginning to demand." The Crane system of localizing the annual water marks so that the paper bears irrefutable evidence of the year of its manufacture is widely recognized and valued. These papers are finding markets in some of the British possessions as well as on the Continent, and it is because of quality, for they cost more delivered than their local rivals.

Through an error in the French classification this important exhibit was wrongly assigned to a jury from another group, and narrowly escaped losing their award. It took three weeks of my best efforts, seconded by the assistant commissioner-general, to straighten out this tangle.

STAMPING AND ENGRAVING.

Tiffany & Co., of New York, made a very notable exhibit of embossing, color, bronze and illuminating, and steel and copper plate engraving. The records showed that this house regularly employs more stampers and engravers than any house in Europe, and their work is unsurpassed. There is no international competition, at least not between Europe and America, and there is no opening in Europe for American work of this kind.

PLAYING CARDS.

The United States Playing Card Company made an exhibit of playing cards which outrivaled anything of the kind ever shown. Playing cards are a Government industry in France, and as there can be no competition to spur on the manufacturer, they are of very inferior quality. Good cards are made in England and in Germany (by Dondorf, of Frankfort). Great quantities of cheap cards are produced in Spain and Italy, where the character of the cards varies in each province.

I do not believe American cards can successfully compete with the very cheap ones of foreign make, but on the medium and high priced goods we should control the business of the world, except in France and Russia, where no foreign cards are admitted. The United States Playing Card Company (Cincinnati) received the grand prix, the highest award ever given to a foreign card in France, several special medals for the collaborators, and a silver medal for their educational games. Europe had never seen so great a variety nor such splendid quality in playing cards, and the grand prix was for the first time awarded in France to a foreign-made card. The beautiful designs shown on the backs of some of the series were a revelation in design as well as workmanship to Old World printers. The head of the greatest German card house (Dondorf, of Frankfort) remarked that it seemed scarcely possible that such designs as those employed on the backs of the Congress series could be printed with the uniformity necessary in playing cards; and connoisseurs from every land sought to obtain examples of these artistic cards.

The United States Playing Card Company distributed at the Exposition 5,000,000 sample cards.

With regard to the sale of playing cards in Europe, Asia, and Africa, the following remarks may be of some value to American producers:

In the clubs of a great many European cities expensive cards with backs specially designed for the clubs are used in large quantities—sufficient, in fact, to warrant special editions. France and Germany have produced the greater part of those used on the Continent, and England has nearly controlled the large trade for this class of cards in her various colonies.

French cards are largely used in North Africa and some parts of Asia, but these are cheaper qualities. There is a very active demand in Italy for a good low-priced card, but here special difficulties confront the American printer, because entirely different cards are used by the different sections of the country, and cards made for any



I-6. INSTALLATION OF BRONZES, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.



1-7. INSTALLATION OF CERAMICS, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.

one province could not be sold at all elsewhere. The people of the southern countries (Italy, Spain, etc.) have been accustomed to use only very common and therefore cheap cards, and I do not believe it would pay America to cater to the demand for the cheaper cards because of the very low prices and the great difficulties in producing for each section such face designs as would be recognized by the common people.

However, there is undoubtedly a splendid opportunity for a large business among the users of fine cards. The employment of the half-tone process in printing scenery backs is unknown in Europe, and presents an attractive opportunity to introduce local designs for certain sections.

Special taxes and peculiar regulations regarding the importation of playing cards exist in almost every country and require careful investigation before business is undertaken.

In America we have not been called upon to compete with the cheaper European cards because of our protective tariff, but the European makers are seeking through diplomatic channels a reduction of duties to enable them to compete in this market, as an offset to our threatened inroads upon their home business in expensive cards.

CORRUGATED PAPERS.

Hinde & Dauche exhibited corrugated paper in sheets and shaped to hold bottles of various sizes. There is a brisk demand for this line of goods in all wine-producing countries, and this modern method of packing will entirely replace the old straw packing.

Goods of this class would be more profitably manufactured in Europe from American machinery, because, when made up near the user, certain local requirements could be catered to. The disinclination throughout Europe to place large foreign stock orders makes it difficult to secure such orders as would obtain economical shipping rates. The idea of shaping the covers to the bottles is a valuable one, and there is an enormous field for its development, not only in Europe but also among the pottery-producing countries of the Orient.

FOLDING WATERPROOF BOXES AND WRAPPING PAPERS.

The E. B. Weston Company, of Dayton, Ohio, exhibited folding waterproof paper boxes and pails, which attracted a great deal of attention, and this line of goods should find even a wider field of foreign demand than the corrugated papers. In America the large consumption of oysters creates an important demand for a cheap waterproof box or pail, and this is not found abroad, but there is need for such receptacles for berries and small fruits, which is used there most extensively. As these goods can be shipped folded, freight rates would be low, but a difficulty is found in the local dealers' refusal to carry any considerable quantity. An established European depot with facilities for printing dealers' business cards upon the boxes would undoubtedly do a large business.

The Weston exhibit of roll-wrapping papers interested a great many commercial visitors, and the same general conditions apply again. The economy of roll-wrapping papers used with the Weston cutters especially commends their use to European shopkeepers, who are accustomed to watch small expenses more closely than Americans. A warehouse filled with such goods would establish an excellent business, and the cutters once placed create a future demand for the rolls of paper.

TOILET PAPERS AND FOLDING DISPLAY TABLES.

The Weston Company showed a line of toilet papers in rolls and packages. The machinery used in their production could be sold in France and elsewhere.

The fixtures adapted for use in public buildings are not sufficiently understood as yet in Europe to be in demand.

The Weston folding display stands and a swinging chair of canvas made by this company were recognized as interesting and ingenious, but there are similar devices made on the Continent.

PAPER BAGS.

The Union Bag and Paper Company, of Chicago, made a very elaborate display of paper bags possessing qualities new to Europe, the self-opening, square-bottom bag, the corners of which do not require to be pushed out by dirty fingers, being especially observed. The machinery used in the production of this staple line is so immeasurably superior to any seen in Europe that bags could be made there that would readily compete with those in use. But it is not believed that a satisfactory business could be conducted from this side of the ocean. Peculiarities of local usage must be catered to on the spot, and orders can not be taken sufficiently in advance to be filled from America. America makes better bags and can make them cheaper than the European, but they must be made in Europe by the American machinery.

PAPER POCKETS.

The Racine Paper Goods Company, of Racine, Wis., exhibited a new device for holding separate small articles, such as cigars, knives, etc. These small paper pockets, never before seen in Europe, will undoubtedly come into very general use in a great many different ways. There is no competition and an unlimited field. A very large business, for certain special uses, as cigars, could be conducted from America; but for the multitude of uses to which this device could be applied local production would be necessary.

ENVELOPES.

The Neostyle Envelope Company displayed their special machinery for manufacturing an envelope which can be mailed sealed for printed-matter postage.

The postal departments of England and France, like that of the United States, have ruled favorably upon the low rate of postage required on these envelopes, and a large business is already developing in England. A similar envelope has been made in France, although never successfully developed there.

LEAD PENCILS.

The American Lead Pencil Company, of New York, made an excellent showing of lead pencils creditable to this industry, which finds so much competition in Europe. The fact that this company has a large and active branch house in London shows that there is a field across the water for American lead pencils, especially in England and probably in France and southern Europe. A large quantity of German lead pencils were confiscated in France recently for some infraction of French customs regulations, believed to have been severely construed as against German goods.

FOUNTAIN PENS.

The world at large in every land where there is enough civilization to induce writing is looking for American fountain pens, and there is no competition except that between the various American makers who cater to this foreign business. The United States supplies the world with fountain pens. The best business is done by those who maintain their own agencies in the various countries, and fields left to local commission houses are practically neglected. The necessity for repairs to broken parts and the replacing of lost caps, etc., demand a local point of supply and a workman who understands the business.

It is worthy of remark that no member of the international jury in class 92, except myself, possessed a fountain pen when they first met, and that after examining the

American section every member obtained a pen and some purchased several for friends or employees.

All grades—cheap, medium, and high priced—can be sold all over Europe.

Very extensive exhibits were made by the L. E. Waterman Company and the Caws Pen and Ink Company, and an interesting although smaller showing was from the Blair Fountain Pen Company.

INKS—MUCILAGE—WAX.

Pomeroy Brothers, of Newark, N. J., made an elaborate and very comprehensive exhibit of their extensive line. Their sealing wax was shown in a great variety of delicate tints, although a very recently patented device for putting up fine wax in thin glass tubes arrived too late to be considered by the jury. This was unfortunate, because the device is entirely new and appears to possess special merits.

The quality of the Pomeroy inks was found to be of so high a standard that the jury unanimously voted them the gold medal. But upon a subsequent reconsideration of all the ink awards this was changed to the silver medal, on account of the extent of the business carried on by this company. In this connection it may be remarked that where there were a large number of exhibits in certain lines the quality was first determined, and then, among those of equal merit, the awards were distributed upon a consideration of the relative commercial importance of the exhibitors.

With regard to business in American inks on the European market, I am sure that they can not be profitably exported to France, but I believe there is an excellent opening in southern and southwestern Europe. Climatic conditions being of vital importance in this branch of the stationery industry it will at once be apparent that shipments to cold northern latitudes are very difficult.

The jury believed many of the inks exhibited from various countries to have really originated elsewhere. A local label pasted on an ink bottle seemed to induce some countries to believe themselves producers of ink.

The ink shown in the American section was made in the United States and its quality was unsurpassed.

SAFETY RAZORS.

Class 92 included in its classification safety razors, and two American firms made excellent exhibits. They were the A. J. Jordan Company, of St. Louis, which exhibited the Star safety razor, and the Gem Cutlery Company, showing the Gem razor.

Safety razors can be extensively sold wherever men shave, and large quantities are sold in England and France. This excellent device is capable of a much wider exploitation than it has yet received, and it is still unknown in many places where it could be sold.

RAZOR STROPS.

The Howard Company, of Boston and New York, showed a very high grade of razor stropps, whose quality could not be surpassed. There is a somewhat limited field for high-priced stropps in Europe, and as the interests of those of American make are intrusted to commission dealers they are less known and used than they deserve to be.

RAZOR SHARPENERS.

F. A. Reichardt & Co., of New York, exhibited a very ingenious machine for sharpening razors. The device is so designed that with it the most inexperienced person may sharpen a fine razor perfectly. This article, only just perfected and patented in the United States, arrived too late to be submitted to the jury, and

therefore failed to obtain the award to which it would undoubtedly have been entitled. Europe offers an attractive field for an article of this character, and an excellent business ought to be developed there. A specialty of this kind can be readily retailed for 10 francs, but the field narrows rapidly when the price exceeds that figure.

FINE LEATHER GOODS.

The Los Angeles Art Leather Company exhibited a very choice collection of small articles in leather elaborately hand carved.

The Grossman & Gerlach Company, of St. Augustine, Fla., showed card cases, pocketbooks, etc., in alligator and other American leathers.

The center of the fine leather trade in Europe is Vienna, and America has not tried to compete with Austrian or French goods except in our own market.

CLIPPERS AND SHEARERS.

In class 92 there were two exhibits of clippers and shearing machines made by the American Shearer Company, Nashua, N. H., and the Brown & Sharp Manufacturing Company, Providence, R. I.

The Americans are the best made and can be widely sold, which facts were demonstrated at the Exposition, but, although classified with stationery exhibits, they are so foreign to that trade that the writer can not claim sufficient familiarity with prices or trade conditions affecting them to discuss their possibilities.

PNEUMATIC HORSE COLLARS.

Another incongruous although important exhibit in this section was a pneumatic horse collar, shown by the United States Pneumatic Horse Collar Company. This collar, humane in its conception and invaluable to owners of fine horses used for draft purposes, is undoubtedly superior to any of the various foreign collars. That there is a wide field for their sale was made evident by an order received at the Exposition for 2,500 collars intended for use in North Africa. This American collar had never before been shown abroad and needs to be made known wherever horses are used.

CASH REGISTERS.

By an error in classification on the part of the French authorities the exhibit of the National Cash Register Company was wrongly assigned to some other jury. When the jury in class 92 was nearing the completion of its labors, we were called upon to examine a cash-register machine of so-called French invention. This was so manifestly a competitor of the well-known American machine that I secured a suspension of the vote, while I hunted up the American exhibit, located on the Champ de Mars instead of the Invalides where it ought to have been. At my solicitation the Commissioner-General at once took an interest in this matter and secured the proper assignment of the American exhibit to class 92. The jury devoted a large amount of time to the two competing exhibits and heard both claims at great length. Finally, at one of the sessions, when the French machine was being demonstrated in the presence of its alleged inventor, I removed the coil of paper on which the records are automatically printed. It is one of the merits of the American machine that it locks automatically when this roll is removed, and so nearly had this part of the French machine been copied after the American, that it also locked. This feature had escaped the attention of the "inventor," who labored unsuccessfully with two mechanical experts for forty minutes to discover what the trouble was. The result of that session was that the jury (75 per cent French) voted the Grand Prix to the National Cash Register and an inferior award to its rival, which, while it

possessed some of the virtues of the American machine, suffered from many mechanical defects.

As regards the opportunity to do a foreign business with these machines it is gratifying to note that they are gradually coming into use all over Europe. But there are difficulties to overcome, which will take time before they secure the universal acceptance they deserve. First, the shop owners must be educated as to their desirability; and next, the prejudice of the clerks against them must be overcome. The National Cash Register Company caters to all countries by adapting its machines specially to the currency of the country where they are used.

OPTICAL GOODS.

The Manhattan Optical Company made an attractive exhibit of fine cameras and their appurtenances.

ART SILVERWARE.

The Alvin Manufacturing Company made a beautiful display of hand-decorated pottery with artistic silver embellishment.

Both of the above exhibits will doubtless be noticed at length in the reports from the respective officials responsible for their examination and award. They are mentioned here because their houses preferred to exhibit in the collective exhibit of a group analogous to their own rather than undertake the expense of separate installation, involving incongruous installation and much greater expense.

STONE BURNISHING TOOLS.

S. S. Taylor, of New Haven, Conn., exhibited a set of burnishing tools of superior qualities. These were passed upon by the proper jury.

The production of this quality of tools is too limited to be considered from a commercial standpoint as regards European trade.

BUSINESS METHODS.

In closing this report I can not refrain from referring to one phase of American business in Europe which impressed me.

There are in the large cities many active commission houses making a specialty of creating a demand for American or other foreign goods, and later caring for the resulting business. Among these people there is a very general complaint of bad faith on the part of American manufacturers, which is a result of actual experience often repeated. An American house, anxious to introduce its goods in Europe, gives an agency to one of these commission houses. The latter spends time and money to introduce the goods, always a slower process in Europe than in America. At last a demand springs up, and then the American supplies his goods direct to other dealers, careless of the claim of the original introducer that he ought to reap the benefit of his labors. This has been so often repeated that American manufacturers have now a reputation for that kind of unscrupulous dealing in many quarters.

A careful study of the situation would indicate the wisdom, first, of maintaining a special representative in foreign countries where business is sought, because no commission house ever accomplishes for a line of goods as much success as might be won by a direct representative with one interest solely in hand; second, if that can not be done, of avoiding the attempt to do a little more business temporarily, by breaking faith with your commission house, which has a right to expect fair dealing.

American goods rank high in Europe, and American commercial methods ought to be equally respected.

THE JURY.

I desire to add just a word regarding the composition of the jury in class 92. Of the twelve members nine were French, and each man was peculiarly qualified to serve. The president of the jury is the president of the paper syndicate in France, and each of the others stands at the head of some branch of the trade. The English member is the head of the English stationery bureau, an important government post. The German member represents in Paris many prominent German manufacturers.

These men were all animated by a firm determination to be absolutely fair and impartial in their judgments, and every courtesy and consideration was shown American exhibitors.

The American stationery trade never before made so good a showing abroad, never received such high awards, and never can be more cordially received by a foreign people.

France was generous and just.

The three views (plates 3, 4, and 5) give a general idea of this exhibit as installed.

The estimated cost to each exhibitor was \$9 per square foot, based on the estimate below:

	Estimated cost.	Actual cost to Jan. 1, 1900.		Estimated cost.	Actual cost to Jan. 1, 1900.
Flooring.....	\$351.00	.....	Illumination.....	\$1,000.00	\$218.67
Partitions.....	460.00	\$524.57	Contractors.....	300.00	359.63
Freight.....	500.00	314.59	Colonnade.....	1,570.00	1,333.44
Show cases.....	3,000.00	2,477.96	Superintendent.....	3,375.00	2,625.00
Storage.....	200.00	100.00	Assistant superintendent.....	560.00	.....
Installation.....	500.00	945.11	Travel.....	1,500.00	656.24
Signs.....	300.00	254.16	Clerical.....	984.00	559.44
Labor.....	300.00	186.42	Sundries.....	3,060.00	815.42
Wiring.....	200.00	.....	Total.....	18,360.00	11,524.12
Decoration.....	200.00	144.20			

The various branches of the stationery industry were well represented, and the medals awarded the several exhibitors who took part were greater in number and of higher rank than those of any other nation except France.

Below is a list of exhibitors, with a record of awards, in class 92:

Exhibitor.	Character of exhibit.	Space occupied.	Dead or live exhibit.
Whiting Paper Co., New York and Holyoke, Mass.	Fine writing papers.....	Entire arcade case.....	Dead.
United States Playing Card Co., Cincinnati, Ohio.	Playing cards.....	Floor space and 3 cases.....	Do.
	Educational games.....	do.....	Do.
National Cash Register Co., Dayton, Ohio.	Cash registers.....	Floor space.....	Live.
Union Bag and Paper Co., Chicago, Ill.	Paper bags.....	do.....	Do.
Tiffany & Co., New York.....	Stamping and engraving.....	do.....	Do.
American Lead Pencil Co., New York.	Lead pencils and penholders.....	Part of arcade case.....	Dead.
Crane Bros., Westfield, Mass.....	Ledger papers.....	One-half of arcade space.....	Live.
Neostyle Envelope Co., New York.	Special envelopes.....	Floor space.....	Dead.
Caws Pen and Ink Co., New York.	Fountain pens.....	Floor space and one arcade case.....	Live.
Weston Paper and Manufacturing Co. Dayton, Ohio.	Paper boxes.....	Floor space.....	Do.
	Roll wrapping papers and cutters.....		
	Toilet papers and fixtures.....		Dead.
	Display tables.....		
Pomeroy Bros., East Newark, N. J.	Inks, mucilage, wax.....	Part of arcade case.....	Do.
Hinde & Dauch, New York.....	Corrugated packing papers.....	do.....	Do.
Blair Fountain Pen Co., New York.	Fountain pens.....	do.....	Do.

Exhibitor.	Collective or independent.	Award.	Awards to collaborators.
Whiting Paper Co., New York and Holyoke, Mass.	Collective	Grand prix	Gold medal to J. M. Tate.
United States Playing Card Co., Cincinnati, Ohio.	.....do .....	.....do	Gold medal to John Omwake; silver medal to A. Crusius; honorable mention to James D. McCracken, John H. Williams, and W. C. James.
	.....do	Silver medal ...	Bronze medal to K. H. McCutcheon.
National Cash Register Co., Dayton, Ohio.	.....do	Grand prix	Gold medal to Joseph P. Cleal.
Union Bag and Paper Co., Chicago, Ill.	.....do	Gold medal	Silver medal to C. J. Fisher.
Tiffany & Co., New York	Independent ..	.....do	Gold medals to W. Whitehouse and F. Whitehouse; silver medal to J. J. Burns.
American Lead Pencil Co., New York.	Collective ....	.....do	Silver medal to L. E. Reckendorfer.
Crane Bros., Westfield, Mass. ....	.....do .....	.....do	Silver medal to L. E. Waterman; bronze medal to W. J. Ferris.
Neostyle Envelope Co., New York.	.....do .....	.....do	
Caws Pen and Ink Co., New York.	.....do	Silver medal ...	
Weston Paper and Manufacturing Co., Dayton, Ohio.	.....do .....	.....do	Bronze medal to F. E. Brown.
	.....do .....	.....do	Honorable mention to Wm. Faulder and Louis Bourn.
	Collective	Silver medal ...	Silver medal to A. C. Meisner.
Pomeroy Bros., East Newark, N. J.	Collective	Silver medal ...	Silver medal to W. D. Field; bronze medal to W. T. Smith and M. Mook.
Hinde & Dauch, New York .....	.....do	Bronze medal ..	
Blair Fountain Pen Co., New York.	.....do .....	.....do	Honorable mention to Margaret Costello, Dennis Sullivan, and James Bennett.

The above exhibits were passed upon by the jury for class 92. Various other exhibits grouped with the stationery exhibit and mentioned in the above report were examined by other juries.

The "dead" exhibits were under glass and unattended. The "live" ones were in charge of special representatives.

The office of the superintendent of the section was in the middle of the exhibit, where information about any exhibit was always available.

COLLECTIVE EXHIBIT HEATING AND VENTILATING.

Submitted herewith is the report of W. F. Wolf, expert in the department of heating and ventilation.

HEATING AND VENTILATION.

M. H. HULBERT, Esq.,

*Director United States Department Varied Industries,
to the Paris Exposition of 1900.*

DEAR SIR: I have the honor to submit the following report relative to the United States department of heating and ventilation at the Paris Exposition of 1900:

Upon receiving my appointment in June, 1899, action was taken immediately relative to the plan and method that should be followed to represent in the best possible manner the various industries directly and indirectly connected with the service of heating and ventilation, in accordance with the Exposition classification. While the gross space allotted for such a representation embraced 2,498 square feet, it was subdivided by the three obligatory aisles and encroached upon by the necessary room required for circulation about the exhibits for their thorough inspection, the actual available space for exhibition purposes being reduced to practically 1,700 square feet.

This very limited area made it obligatory that, to properly illustrate the several branches of industries connected with this department, only one or two samples of articles representing a particular branch should be shown. This plan was adopted to the end that the manufacturers of the United States should not be brought to any great extent into possible competition with each other, but rather that the exhibitors of the United States in the department of heating and ventilation might stand prominently in competition with the world. The result, in form of recompense, general attention, etc., received by these exhibits, justified the wisdom of this plan as adopted and carried out.

The plan of procedure having been decided upon, I forthwith placed myself in communication with manufacturers throughout the United States engaged in the manufacture of all classes of apparatus in connection with warming, ventilating, cooking, and their kindred accessories. This was done first in the form of a direct personal correspondence to the extent of approximately 1,500 autograph letters. I then visited personally, so far as possible, the several manufacturers' trade associations, and met the executive committees of others, requesting that they recommend representative articles for exhibition in Paris to exemplify the perfection of their several branches of industry. It was not deemed practicable by them to select such exhibits owing to trade competition.

The plan was then referred to the American Society of Heating and Ventilating Engineers, which includes in its membership many of the most prominent manufacturers and the best engineers of the world connected with this branch of affairs. It was requested that suggestions be made by them as to the proportional allotment of space that should be devoted to the several branches of the heating and ventilating and cooking appliances as manufactured in the United States. The subject was carefully discussed by them in meeting and in committee, recommendations were made as requested, and same were carried out as far as was practicable.

A thorough canvass was then made among the manufacturing centers in the United States to fully explain the plan and scope of this proposed exhibit to the manufacturers. Visiting personally Boston, Worcester, Springfield, Hartford, New York, Philadelphia, Reading, Baltimore, Washington, Pittsburg, Cincinnati, Cleveland, Toledo, Detroit, Dowagiac, Chicago, Quincy, Buffalo, Rochester, Utica, Albany, Troy, and intermediate points en route, I continued in the meantime the correspondence previously referred to with the view of making the exhibit a most complete and representative one. The result of this thorough canvass was that the following branches of the several trades were represented by the following list of exhibitors, representing the special articles as described:

American Radiator Company, Chicago, exhibiting radiation in its many forms, boiler accessories, together with models illustrating the American method of installation.

Modern Heating Company, Philadelphia, exhibiting steam and hot-water boilers of special character.

Abram Cox Stove Company, Philadelphia, exhibiting typical American range with horizontal hot-water boiler.

A. C. Barler Manufacturing Company, Chicago, exhibiting special type of petroleum heating stove.

Estate of P. D. Beckwith, Dowagiac, Mich., exhibiting special type known as Round Oak heat stoves.

Cortland Howe Ventilating Stove Company, Cortland, N. Y., exhibiting special self-feeding, ventilating heating stove.

Michigan Stove Company, Detroit, exhibiting special self-feeding, base-burning heating stoves, together with wrought-iron range.

Powers Temperature Regulating Company, Chicago, illustrating several methods of temperature control as applied to direct and indirect heating, together with their special forms of application and appliance.



I-8. INSTALLATION OF CERAMICS SHOWING STYLE OF SHOW CASE, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.



I-9. INSTALLATION OF EXHIBIT CASES WITHOUT INTERIOR SHELVING, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.

Tuttle & Bailey Manufacturing Company, New York, exhibiting registers, faces, ventilation registers, etc., of special form and design.

Thomas, Roberts, Stevenson Company, Philadelphia, Pa., exhibiting representative types of stoves and ranges for burning wood, coal, and other fuel, together with especial form of range manufactured by them in the form of combination by which it is possible to perform its functions of cooking, baking, heating of water, etc., by the use of coal, wood, or gas at option.

George M. Clark & Co., Chicago, exhibiting apparatus applicable for cooking or heating purposes by use of gas and gasoline; also, including appliances for special heating of tailor's irons, plate warmers, individual cookers, etc.

Rochester Radiator Company, Rochester, N. Y., exhibiting form of radiators with attachment to smoke pipe, for the purpose of utilizing the large amount of heat which, without the application of this form of radiators, is passed to the chimney and wasted.

Griswold Manufacturing Company, Erie, Pa., exhibiting cast aluminum ware for cooking purposes and many varied useful forms; also sample of cast-iron kitchen ware and oil-heating stoves of special design.

Philipps & Clark Stove Company, Geneva, N. Y., exhibiting representative American type of cooking ranges with and without hot-water heating reservoir pipe shelf and illustrating general conveniences peculiar to American cooking apparatus of this character.

Troy Nickel Works, Albany, N. Y., exhibiting special form of stove trimmings, such as knobs, handles, cover lifters, pokers, etc., which by their peculiar form and construction are at all times cool.

Judson A. Goodrich Company, New York, exhibiting trimmings and fittings for steam and hot water, comprising valves, thermometers, air valves (automatic and otherwise), pipe hangers, floor plates, nonconducting material for pipe covering, etc.

Ashton Valve Company, Boston, exhibiting steam-pressure and vacuum gauges, water gauges, valves, and a special American form of pop-cock safety valves.

Massachusetts district police, Boston, exhibiting full and complete plans illustrating the most modern American methods of warming and ventilating schools by various methods.

New York Blower Company, New York, exhibiting blowing and exhaust fans, direct-connected engine, special heater for indirect heating in connection with mechanical ventilation, countershafts showing special form of bearing, together with special fittings for automatic lubrication of bearings, etc.

Jordan L. Mott Iron Works, New York, exhibiting special form of steam and hot-water boiler, together with radiator representing several types as generally used in the United States.

Smith & Anthony Company, Boston, Mass., exhibiting artistic fireplace linings.

Mahoney Manufacturing Company, Troy, N. Y., exhibiting special form of portable steam boiler.

Philadelphia Malleable Iron and Hardware Company, Philadelphia, Pa., exhibiting general steam and hot-water fittings, registers, and several forms of direct and semidirect radiators.

Hart & Crouse Company, Utica, N. Y., exhibiting special form of steam and hot-water heating boilers.

New York Board of Education, New York, N. Y., exhibiting plans and photographs illustrating the method of warming and ventilating the modern school buildings of the city of New York as planned and executed by Mr. C. B. J. Snyder, superintendent and architect, and Mr. William McMannus, heating and ventilating engineer.

American Society of Heating and Ventilating Engineers, exhibiting publications describing work done by this society since its formation, together with papers that have been prepared for and read before this society by many prominent engineers

engaged in the special appliances of heating and ventilation; also plans prepared by Mr. Waters, of Chicago, illustrating the methods of warming and ventilating the school buildings of that city.

International Heater Company, Utica, N. Y., exhibiting two special forms of steam and hot-water boilers; their well-known form of combination steam heating and warming air furnace—furnace specially adapted to the burning of bituminous coal. A convenient form of farmers' boiler or caldron kettle, etc.

Herendeen Manufacturing Company, Geneva, N. Y., exhibiting special forms of extension steam and hot-water boiler, special form of self-feeding steam and hot-water boiler, also types of steam and hot-water boilers of particular design.

Magee Furnace Company, Boston, exhibiting special form of warm-air furnace, illustrating also methods of extending heating capacity of same by supplementary hot-water attachment, and special form of portable steam or hot-water heating boiler and a modern type of American cooking range.

Kisley & Mueller, N. Y., exhibiting steam specialties, such as automatic draft damper, regulators, automatic pump regulators, automatic steam-pressure and vacuum-regulating valves, back-pressure valves, water-pressure regulators, steam traps, oil and grease extractors, steam traps, etc.

Warren Webster & Co., Camden, N. J., exhibiting apparatus illustrating method of heating by vacuum process at or below atmospheric pressure.

William Scaife & Sons, Pittsburg, exhibiting special form of water-heating boilers, open and closed expansion tanks, automatic and otherwise.

Loan exhibit from the Draper Self-Registering Thermometer Company, of New York, exhibiting special form of self-registering thermometer maintaining a complete record of temperature automatically for seven days.

A careful review of these exhibits will show, considering the limited area of the available space, that the various industries connected with the department of heating and ventilating, as classified, were brought to the attention of the world at large to the greatest possible extent. In fact, the foregoing exhibits have enabled us, as representing the manufacturers of the United States, to show interested parties representative types of apparatus connected with almost all the branches of the various industries embodied in this department, illustrating the methods of heating by steam, hot water, gas, gasoline, petroleum; cooking appliances by the use of anthracite and bituminous coals, wood, gas, gasoline, and petroleum; and combining with both the heating and cooking the various types of necessary appliances.

The wisdom of the plan of this combination of exhibits is probably best illustrated by the recompense or awards given to the United States department of heating and ventilation as against others, the awards to the United States being, as enumerated in your report at large, 1 grand prix, 26 medals, and 8 honorable mentions. But one other grand prix was awarded in the entire exhibit of heating and ventilation, this being to a French engineering concern, not manufacturers. With the exception of France, more medals were awarded to the manufacturers of the United States in this department than to any other five nations combined. Taking into consideration that the French manufacturers had reserved for them more than half of the available space in this line of manufacture and exceeded by a very large majority the total number of exhibitors of all nations combined, together with the fact that in all juries of awards the French largely predominated in membership, it is highly creditable to the inventive genius and manufacturing ability of the American exhibitors that they received such recompense and recognition. Never before at any international exposition in Europe have American manufacturers received even a partial recognition as compared with that given them at the Paris Exposition of 1900. It not being within the scope of the department of heating and ventilation to actually solicit orders and make sales for the exhibitors direct, there was included an internal organization consisting of a clerical force, interpreters, care takers, etc., who

were in attendance about the exhibit at all times and carefully endeavored to promote the interests of exhibitors. Within the corps of interpreters was embraced those speaking seven languages, and, so far as possible, the merits of the goods of the United States manufacturers in this department were carefully explained to all interested visitors. The names of such visitors seeming specially interested and with whom there seemed to be a likelihood of establishing business relations between them and the exhibitors were carefully noted and were, from week to week, transmitted to the exhibitors with a view of developing commercial relations. Prior to the closing of the Exposition all exhibitors were requested to state the disposition they wished made of their several exhibits. In such cases where they expressed the wish that their exhibits should be disposed of in Paris efforts were made in this direction, and to a great extent successfully. When requested, exhibits were transferred to European agents; in all other cases exhibits were returned to the United States.

The estimated cost of this exhibit was \$9 per square foot, based on the following estimates:

	Estimated cost.	Actual cost to Jan. 1, 1900.		Estimated cost.	Actual cost to Jan. 1, 1900.
Flooring.....	\$350.00		Illumination.....	\$500.00	
Partitions.....	400.00	\$550.75	Contractors.....	300.00	\$227.85
Freight.....	1,500.00	1,511.93	Colonnade.....	1,640.00	1,319.66
Show cases.....	500.00	115.57	Superintendent.....	3,875.00	4,440.47
Storage cases.....	200.00	100.00	Assistant superintendent	1,000.00	
Installation.....	800.00	668.23	Travel.....	1,500.00	415.14
Signs.....	200.00	155.11	Clerical.....	984.00	476.94
Labor.....	300.00	381.73	Sundries.....	2,968.00	653.45
Wiring.....	100.00				
Decoration.....	200.00	127.16		17,817.00	11,143.93

The awards to the exhibitors in this department were also of greater number and of higher rank than any nation outside of France.

Respectfully submitted.

WILTSIE FULLER WOLFE.

COLLECTIVE EXHIBIT FURNITURE AND DECORATION.

Submitted herewith is the report of Charles E. Spratt, expert for the collective exhibit of furniture and decoration:

I hand you as requested my report as superintendent of the collective exhibit of furniture and decorations.

From the date of my appointment as an expert in the department of varied industries it was my idea to bring together an exhibit that would advance the commercial rather than the artistic in the manufacture of furniture and decorative materials in the United States. It was recognized that with the limited amount of space an exhibit embracing both the artistic and commercial lines as manufactured in the United States could not be made. The Paris Exposition would offer an excellent opportunity for the development of an export trade for furniture and decorative materials made in the United States. It would also prove that the development of this trade was of importance to the manufacturers involved and to the country as a whole aside from the mere struggle for medals for artistic merit without regard to commercial development. These lines were followed with your approval.

It was for this reason that 5 of the 10 rooms assigned to the collective exhibit of furniture and decorations were given up to office furniture, particularly as in this

branch of the furniture manufacturing industry the United States is without a competitor in the world, and as there had been great advancement made in the manufacture of office furniture and devices since the last international exposition (even at that time only a meager display was made).

The result of devoting so much of the space to this line of manufacture has been the development of a very large trade in most unexpected quarters and the awakening of the commercial world to the complete perfection to which American office furniture has been brought. Practically the same thing is true of billiard tables, and to this industry one of the remaining rooms was given. Two rooms were devoted to bedroom furniture, which line of trade has not as yet been developed in foreign countries, but wherever American furniture for sleeping rooms has been introduced it has proved popular, and it was my thought in devoting two rooms to its use that the superiority of American bedroom furniture could be by this means impressed upon the millions of European householders who might visit the Exposition, and they would for the first time obtain an adequate idea of what American bedroom furnishings consist. As a result of this there would be created a demand in each of their home cities upon their dealers for goods of this kind.

Two rooms were given up to bath tubs and sanitary appliances. This is an industry in which the United States has in the past few years, especially since the last great international exposition, developed improvements to a marvelous extent, surpassing all competitors throughout the world, and the good judgment of giving up a portion of our space to this display was evidenced in the widely extended trade developed for the two concerns which made up this very attractive exhibit.

Great difficulty was experienced in organizing the collective exhibit, in view of the lack of interest of some manufacturers in the United States whose lines were necessary to the completion of rooms in order to show them properly furnished. Many of the manufacturers were finally interested, however, through patriotic motives, and afterwards found that through the Exposition trade had developed for them in unexpected quarters, and it is safe to say that all the manufacturers who participated in the collective exhibit of furniture and decorations are more than satisfied with results in the way of new trade developed from unexpected quarters. It can be confidently stated that many American mechanics will, in the near future, find work in the factories of this country through this exhibit conducted in your department at the Paris Exposition.

Yours, truly,

CHAS. E. SPRATT,
Superintendent Collective Exhibit of Furniture and Decorations.

STANDARD FURNITURE COMPANY.

The exhibit of the Standard Furniture Company, of Herkimer, N. Y., consisted of American roll-top desks of a large variety in size, style, and grade, ranging in price from \$25 to \$800. The company advises that, judging from the expressions of visitors and also the number of actual sales made at the Exposition, it is its opinion that a large number of representative people were impressed with the fact that American furniture for offices and libraries is not surpassed, if equaled, by the produce of any other country.

The beautiful figure in the American oak was shown very effectively by a clear, glossy, American finish, and was particularly noticed in the articles of this exhibit.

It may be remarked that never before has American furniture been made so nearly to meet the views of foreign purchasers, who require that the interior shall compare most favorably with the exterior in regard to finish. Of the few desks shown at the Exposition of 1889 none of them included arrangements of pigeonhole cases, except the ordinary open spaces for papers, while most of the desks in this exhibit had a large number of ingeniously arranged document boxes and filing drawers. This transition from the ordinary, everyday arrangement of the pigeonhole to the pigeonhole case has been made since 1889.

The cost to the exhibitors in this department was \$9 a square foot for floor space and 50 cents a square foot for wall and ceiling space, based on the estimate as follows:

	Estimated cost.	Actual cost to Jan. 1, 1900.		Estimated cost.	Actual cost to Jan. 1, 1900.
Flooring.....	\$513.00		Illumination.....	\$1,400.00	\$196.66
Ceilings.....	370.00	\$1,779.04	Contractors.....	600.00	538.44
Partitions.....	600.00		Colonnade.....	2,800.00	1,316.00
Freight.....	400.00	403.84	Superintendent.....	3,750.00	3,750.00
Storage cases.....	300.00	100.00	Assistant superintendent.....	640.00	-----
Installation.....	500.00	1,407.41	Travel.....	1,500.00	466.57
Signs.....	300.00	306.66	Clerical.....	984.00	603.44
Labor.....	300.00	255.49	Sundries.....	3,511.00	969.10
Wiring.....	300.00	200.00			
Decoration.....	300.00	170.14		21,068.00	12,361.79

COLLECTIVE EXHIBIT WATCHES AND CLOCKS.

The report of A. J. G. Hodenpyl, expert for the collective exhibit of watches, clocks, and jewelry, which follows, explains why this exhibit was abandoned, and it can only be added that, in addition to the reasons he states, the manufacturers in the important branches of silver-plated wares and clocks of moderate price have not yet reached the point where they make their own designs, but still copy almost exclusively the models of French and Swiss makers. The French and Swiss designs being copyrighted, it was impossible for these American manufacturers to display their wares in either of those countries. Mr. Hodenpyl states:

When I was appointed, in July, 1899, as expert of the watch, clock, and jewelry industries, to get together a collective exhibit, I immediately visited the largest manufacturers of these goods with an assistant.

The proposition was considered with a good deal of encouragement and favor, but we saw at once that there were good reasons why the manufacturers could not give us anything like a satisfactory exhibit of their goods. The principal reason was that all were working full time, and when the fall trade began in August they had in many instances to refuse orders. Still we were hopeful of receiving certain lines of jewelry.

But there were other reasons why the large factories did not wish to exhibit. Since 1886 the American manufacturers have made enormous advances in these industries. To-day they are exporters; they have their regular customers all over the world, and an increasing demand; therefore to exhibit was very strongly opposed by the customers who had spent money and time in introducing their goods.

Had it not been for our great prosperity the American manufacturers would have made a collective exhibit of their goods which would have been eminently suited to a world's exposition. We should have given the world an object lesson which would have astonished them and would not soon have been forgotten. A good, substantial watch, piece of jewelry, or clock is not a luxury in our country, but a necessity for everyone to possess, and on account of the great demand these goods are made here by machinery of the most approved kind, in lots of one hundred and one thousand, while in Europe they are made by hand and by the dozen. We therefore can furnish goods which are better made and more substantial and, with the help of the protective tariff, at less cost than the imported goods. Where in Europe are there factories which can turn out a watch a minute or a thousand watch cases a day? We are glad we are so prosperous and have made such rapid advances in our manufactures, but also regret that we could not satisfy our national pride in enlightening the world.

Respectfully submitted.

A. J. G. HODENPYL.

COLLECTIVE EXHIBIT INDIA RUBBER.

The statement below of H. C. Pearson, expert for the collective exhibit of india rubber, gives the reasons why it was abandoned. The so-called rubber trust was reputed to control 95 of the manufactories in the industry, and it will be readily appreciated that the lack of their cooperation necessarily made the success of the project impossible. Mr. Pearson states:

DEAR SIR: In accordance with your instructions I herewith submit a brief report of my work in connection with the rubber trade:

My appointment as honorary expert took effect June 12, 1899, and expired September 13, the same year. As soon as the appointment was received I made a canvass of the entire trade and found that there was no particular interest in exhibitions, the general sentiment being that if some large corporation like the United States Rubber Company, known as the "rubber trust," took the lead, enough others would follow to make a very creditable joint exhibit. I therefore brought every influence to bear upon that company. The directors of the company were exceedingly courteous and the matter was brought before the board on three different occasions, with the final decision not to exhibit. This decision, by the way, had the sanction of the European agent of the company, to whom considerable money had been granted to push their goods abroad, and who was sure he could get better results in spending that money in special advertising than he could by an exhibit in Paris.

During the few months that I devoted myself to the exploitation of this field I discovered a feeling in the rubber trade that I had not appreciated before—that the showing of special goods or samples in such an exhibition did not lead to the sale of those goods by the manufacturers, but rather to the imitation of them by foreign rivals.

When I found that the rubber trade was not to be adequately represented in its combined exhibit the existing contracts were either canceled or the exhibits transferred to other departments.

Respectfully submitted.

HENRY C. PEARSON.

COLLECTIVE EXHIBIT STAINED GLASS.

It had been proposed by your director to incorporate into the department a collective exhibit of stained glass and mosaic work. The plan as outlined was to use the space in the center of the department created by the crossing of the two main aisles, and over this crossing to install a pavilion of stained glass and kindred industries. It had been hoped that the manufacturers of these various trades would cooperate so that an octagonal floor would be the exhibit of flooring tile in design, the ceiling being of glass mosaic in design, while the four walls were to be taken up by exhibits of four different manufacturers of stained-glass windows. An exhibition of artistic wrought-iron work was to be incorporated in the construction of the pavilion, and an exhibit of the 6,000 different colored glasses used in the construction of the American stained-glass windows was to be displayed in the center of the pavilion, illuminated by electricity. The manufacturers, unfortunately, and no doubt justly, felt that at present there was little hope of financial benefits from the undertaking, as it would necessarily

have been quite expensive. Your director did not feel justified in recommending that the expense be assumed from the Government funds, and it was therefore found impossible to carry out the plan as intended. A pavilion was built, however, of staff, stained-glass windows were secured for the four sides, and a large manufacturer of tile designed and furnished the flooring.

GENERAL INSTALLATION.

With the exception of these few failures, the department as installed embodied all the ideas originally outlined.

It had been decided to have the greater part of the display commercial, and at the same time make the whole effect as artistic as practicable. This was generally acknowledged to have been accomplished. The display of silver, jewelry, art pottery, and art glass was certainly never before equaled for artistic beauty, and each display was typically American in spirit and design.

The uniform colonnades, in white and gold, lining both sides of all the aisles and the graceful canopy of red and white spanning the passages from the top of one colonnade to the other made a most effective framing for the exhibits beyond.

The large arches crossing all the entrances, with their numerous shields and coats of arms of the United States, defined the section perfectly, and the marble and mosaic flooring of the aisles added much to the richness of the general effect.

The list of exhibitors given shows the variety of goods displayed and covers nearly all the important lines of the classification from an export standpoint.

WITHDRAWALS.

Probably the one factor which increased the expense and work of the administration of the department the most was that of withdrawals. By actual count the total number of withdrawals was 91, amounting to 68,920 square feet of floor space. These changed the condition of the department each day, and made what was possible one day impossible the next, and ground that had been covered had to be gone over again. These withdrawals were, unfortunately for exhibits, so located in the department that the space liberated could not be used to increase the space of exposants who desired more than the space given them and to whom it was impossible to have given more at the time the allotments were made. Many of these withdrawals came late in the year, and there was then not sufficient time for the new exhibit to be properly prepared nor sufficient time to secure an equally representative display. One of the important advantages of having uniform constructions and colonnades built by a trustee was that the signing of each contract for space called for the payment of money.

While there were even then many withdrawals, it is certain that the number of these would have been materially increased had no financial obligation been involved in the signing for space.

CONTRACTS SIGNED.

The contracts finally secured amounted to 350 and were signed in July, August, September, October, November, and December, 1899, and January, February, and March, 1900.

It will be noted that most of the contracts were signed quite late. Many of the firms which signed in October had promised their exhibits in June and July, but put off signing for one reason and another. This made the work of the department difficult and uncertain, and added much to the labor of organization.

ALLOTMENT.

As the general effect of the department depended upon the nature of the individual installations, it was decided to give the exhibitors as much material as possible from which to plan their display. To this end, as soon as each contract was signed, the exhibitor was sent the plans of the department, on which was marked the exhibitor's space.

FAÇADES AND CONSTRUCTION.

The designs for the colonnade and entrance arches were submitted by Mr. John Getz, chief of decoration, in October and accepted about November 1. The contract to build them was let and the contractor, John Klee, sailed in November to commence work.

On December 6 the order was given for all show cases, and on January 4 the contract was let for the construction of the partitions. On January 31 the order was given to dig the trench for the water main to supply the operative bathroom exhibit, and on January 11 the contracts were let for the gas main to supply the two exhibits which required gas. On this date also the French administration was furnished with the specifications for the electricity necessary for illumination and power.

The main aisle, which was to be used for the display of marble and mosaic flooring, required a 6-inch solid concrete foundation, and on September 1, 1899, this part of the space was ordered depressed, the concrete being contracted for on January 5.

FAÇADES AND DECORATIONS.

The canopy over the aisles, in addition to hiding the gallery girders, was intended to confine the attention of the visitors to the exhibits in the American section and prevent their being distracted by the displays of the nations who exhibited in the galleries.

A large quantity of American flags was brought from the United States for special holiday decorations, and, in addition to the regular decorations, on the Fourth of July there were distributed some 500 small printed flags, which were used in decorating the rolling chairs in the grounds and the buildings of the various concessions.

INSTALLATIONS.

The various styles of installations used are shown in the illustrations.

VENTILATING FANS.

Probably no one thing was so favorably commented upon as the ventilating fans installed at intervals of 15 feet along both sides of all the aisles. In front of each fan was a small American flag, which fluttered when the fan was in operation and helped to give the section a cool appearance. These fans were placed diagonally to the aisles, and, during the warm weather in July, created a fresh circulation of air that was more than appreciated by all the visitors and did much toward making the section attractive.

TRANSPORTATION.

Submitted herewith is the report of W. E. Crist, who had directly under his charge the details of shipping all exhibits to the Exposition and returning them after its close. Too much credit can not be given to him for the manner in which he performed his duties in this connection, as well as in all the work intrusted to him. His services were invaluable, and the administration of his duties expeditious and accurate.

M. H. HULBERT,

Director Department of Varied Industries.

DEAR SIR: Following is the report of your assistant director on transporting exhibits belonging to your department:

A proposition of much importance to a director of a department at an international exposition is the collecting of the exhibits at the port of departure, properly marked and labeled, and the filing of invoices and declarations for the free entry of same at the port of entry to the country holding the exposition. To the writer was assigned this duty for the department of varied industries.

The exhibits of this group were of three classes: Government, individual, and collective.

A contract was made with G. W. Sheldon & Co., forwarding agents, of New York, to make the shipments, clearances, etc., on outgoing exhibits (for the collective exhibits of furniture, stationery, heating, and ventilation). Individual exhibitors were recommended to ship through the same forwarders, as it would facilitate the work in Paris to have all exhibits arrive at the same headquarters where all custom formalities could be complied with. Much time, trouble, and expense in going from one place to another to have exhibits cleared into the different buildings could thus be saved. It was optional, however, with the individual exhibitors to ship through any forwarding agents, many of them preferring others than the ones recommended.

All of the exhibits were finally sent forward, twelve different forwarding companies having shipped a portion of them.

The contract called for a brokerage fee of \$2, which included the filling out of triplicate declarations, one of which was sent to the exhibitor, one with the shipment, and the third to the office for official file, together with bills of lading in triplicate to cover the shipment. Two dollars a ton was also allowed for cartage from the various freight stations of arrival in New York City to the steamer's dock. There was, however, to be no minimum shipment; all exhibits that had arrived on the day of sailing of steamer were to go on one brokerage fee and one bill of lading. In addition to the above charges \$10 a ton ocean freight was charged (option of steamship company, weight or measure), which paid the transportation charges through to the space in the building to be occupied by the exhibits, including all terminal charges for handling, etc.

In order to have the exhibits arrive in New York as nearly as possible at the same time for export, the shipping labels were held back until advice arrived from the exhibitors that they were ready and waiting for them. On December 11, 1899, the first labels were sent out, with full instructions as to how they should be attached to a package or box. This first installment, however, was only a sample, the labels being of two sizes, two being required for each package or box, according to the regulations sent. The exhibitors were requested to select the size best suited for their shipment and request that labels be sent, giving the number of packages they would ship and through whom they would ship them; also names of transportation lines.

The collective exhibitors were instructed in the same manner, with the exception that they were all ordered to ship to the broker with whom the contract had been made for their forwarding to the space they were to occupy in the Exposition building. The mailing list for this consisted of some six hundred odd names. From December 11, 1899, to February 21, 1900, when the writer sailed from New York, there had been mailed to each exhibitor (collective and individual) six different covers, either containing requests to hurry shipment or giving additional instructions. On each of these was printed the date of the last day that exhibits would be received into the grounds, making in all over 3,000 letters in a little over two months. A clerk was left in New York after the 21st of February, 1900, to finish up the few delinquents, which work was accomplished by March 1, with the exception of one that was shipped so late that it only arrived in Paris on the 20th of June, 1900. Some difficulties were encountered in obtaining permission to get the cases containing this exhibit into the grounds, as the Exposition had been open nearly two and a half months. They were eventually passed into the Exposition building and installed. The next day the jury awarded this particular exhibit a gold medal.

Each exhibit was given an admission number by the French authorities, that served to pass it from the port of entry in France to the Exposition building in Paris, which was a bonded warehouse. Many of these admission numbers were not sent out by the French authorities in time to be sent to the exhibitors before they had shipped their exhibits, which caused some little delay at the port of entry into France.

Arriving in Paris and looking over the ground, the difficulty to be met in getting exhibits into the buildings was very perplexing, as the cars were set on tracks about 15 feet under ground, making the use of hoisting machinery necessary to get the exhibits to the surface.

A company had the concession for this class of work and for all tracks inside the buildings and grounds, and would not let the use of their cranes. It was evident that they would have to be contracted with to do this work. In order to do this, that portion of the contract with G. W. Sheldon & Co. which related to Hernu, Peron & Co. had to be waived. This release was accomplished after some trouble, and letters

from Hernu, Peron & Co. to the various railroad companies were obtained, releasing the goods from their custody, and authorizing them to deliver the exhibits for Groups XII and XV on the order of the director of the department of varied industries, provided no demurrage bills be charged to them (Hernu, Peron & Co.).

The congestion at Havre made it necessary to make several trips from Paris to Havre and return, in order to get out and ship specially some exhibits, or portions thereof, that were needed for immediate use, in order not to have the work of construction and installation retarded.

This done, exhibits began to arrive rapidly on the space allotted. The freight department of the railroad was completely overtaxed, as it required from three to six weeks to get exhibits from Havre, a distance of about 142 miles.

A contract was made with the Manutention Company for the handling of the exhibits from the cars to the space at the rate of $2\frac{1}{2}$ francs per 100 kilos. A few days later the company was contracted with for the removal, storage, insuring, and return after the close of the Exposition of the empty packing cases.

The loss of the steamship *Pauliac*, of the Barber Line, caused considerable delay with some of the most important exhibits, which formed part of her cargo. These had to be duplicated, causing them to arrive quite late; but they were not rejected by the French authorities, although the Exposition had opened long before their arrival. Some of them, however, were never duplicated.

Considerable delay in installation was caused by the French authorities refusing to let any exhibits into the Exposition from April 12 to 16, inclusive. This resulted in a considerable accumulation of demurrage on cars at 10 francs per day for each car not unloaded twenty-four hours after having been placed on the side track.

The customs officers paid no attention to exhibits being unpacked in this department, excepting jewelry and playing cards, on which they kept a very careful check. This easy progress was partly evened up by the extra work caused in making up triplicate case invoices, which had to be tacked onto the inside of the cover and which were never used by the customs officers to check up with, as they were supposed to have been. The checking up of each piece of each exhibit, which took the entire month of August, was an additional difficulty, but left the remainder of the custom-house work very easy. In order to have the accounts even the custom-house verification was required, closing up the account on the certificate of the director that all the goods had been packed and were ready to be reshipped back. This was done when the pass out of the grounds was approved and stamped by the customs and octroi, duplicate copies of the pass being kept. A receipt was also taken from the exhibitor or forwarder. The receipts and duplicate pass copies form part of the official files of this department.

This was finished and the last exhibit shipped from Paris the latter part of January, 1901. The total number of packages and boxes of exhibits was 1,754, exclusive of printed matter; the total number, including printed matter, 2,485. The number returned was much less, 224 being returned via the United States steamship *Prairie*, and the others via the various transportation lines. The exact number I am unable at this writing to give, but it was in the neighborhood of 1,200 cases.

After this the writer started for the United States, arriving in New York the first part of February. From there he proceeded to Baltimore, Md., and took up the reshipment of the exhibits transported on the United States steamship *Prairie*. This work is progressing rapidly at the time of closing this portion of the report of the department of varied industries.

Respectfully submitted.

W. E. CRIST,

Assistant Director of Department.

BALTIMORE, MD., February 20, 1901.

ELECTRICITY.

One of the most troublesome features of the work of installation was that of electric power and illumination. The instructions from the French authorities, given in July, 1899, stated that the building in which this department was located would be open until 11 p. m. In consequence the feature of lighting was a serious one. Plans were perfected and received your approval, and material shipped for the installation of 3,000 incandescent lamps. In addition to this the exhibitors required about 1,000 lamps, of which 500 were needed during the day.

When the Exposition opened it was found that the French administration was not going to be able to furnish current to this section at night, and consequently they closed the building at 6 p. m. It was also discovered that the supply of 110 volts through the day was too limited for our demands, but that a 500-volt direct current could be obtained. The exhibitors were each asked to guarantee to burn a fixed amount of electricity each day, according to the quantity each estimated that he would require. A contract was then made for the installation of a 500-volt motor and 110-volt generator, which ran throughout the entire season to its full capacity.

As the days grew shorter the demand for light increased. It was found that the administration would then allow us to bring into the grounds the regular city current, and a cable was laid at once which, together with the generator, supplied the wants of the exhibitors.

To fulfill the needs of the various installations the following services had to be installed: 500-volt direct circuit for motive power; 500-volt current transformed to 110-volt direct current for lighting; 500-volt alternating current transformed to 110-volt alternating for lighting; 110-volt alternating current, which came into the section at 110 having been transformed from the higher voltage outside.

As the administration and the electric companies would only contract with your commission, it was necessary to take this current through nine meters, but even then, as it was supplied to thirty exhibitors, much of the amount consumed had to be proportioned by the electrician. Bills and collections were made semimonthly through the trustee, and it is pleasant to be able to report that, while the whole amount of electricity used was about \$5,000 worth, the cost to the Government of lighting this department was but \$225.

JURY.

On February 1, 1900, a request was received from you to submit the names of people most suitable to act as jurors. The following were submitted, and all received their appointments from you later:

- Class 66. David W. Seligman, Paris.
- Class 67. Roger Riordan, New York.
- Class 68. Unrepresented.
- Class 69. Francis Kimbel, Paris
- Class 70. Unrepresented.

- Class 71. Unrepresented.
 Class 72. W. S. Ward, Denver, Colo.
 Class 73. Unrepresented.
 Class 74. Lazard Kahn, Hamilton, Ohio.
 Class 75. W. F. Wolf, New York.
 Class 92. A. W. Dayton, New York.
 Class 93. A. Vignos, Dayton, Ohio.
 Class 94. A. J. G. Hodenpyl, New York.
 Class 95. Charles F. Greene, Paris.
 Class 96. A. G. Stein, New York.
 Class 97. John Getz, New York.
 Class 98. Unrepresented.
 Class 99. Unrepresented.
 Class 100. M. H. Hulbert, New York.

The work in connection with the jury was important and arduous. Before leaving the United States all the exhibitors were asked to furnish information as to their gross sales, number of men employed, year when founded, list of any awards they had taken in previous expositions, and the advantages of their merchandise, either from the standpoint of quality or that of good value.

The possession of this information was of the greatest value, for many of the exhibitors were not in Paris at the time when the juries passed upon their exhibits, and your director had to act as their representative, either personally or through some member of his staff. Except in two cases the jurors had to be thoroughly posted personally by your director before they visited the section with the entire jury.

In addition to this, the staff of this department had to be instructed as to the best features of each exhibit, so that all the exhibitors would be represented when the juries called, either by their own man in charge or by one of the staff.

At this same time your director was doing double work of director of the department and of juror in class 100. It is well to state here, for the guidance of future commissions, that to do full justice to the exhibitors at large in the department a director should have absolutely nothing on hand while the juries are in session except to receive them in his section and accompany them during their stay. While no interest suffered in this section, the double work is too much for anyone ordinarily to accomplish and do justice to both.

The dates of the visits of the juries to the department were as follows:

Date.	Classes.	Number of jurors.
June 13.....	97.....	17
June 14.....	73.....	13
June 15.....	66, 74, 93.....	43
June 16.....	66, 74, 93.....	43
June 18.....	66, 69, 70, 75, 94, 99.....	96
June 19.....	68, 98, 100.....	32
June 20.....	71, 96.....	30
June 21.....	95, 96.....	40
June 24.....	69, 72.....	60
June 25.....	92.....	12
June 26.....	72.....	38

The awards of these class juries were printed and submitted to you by the French administration, and on the strength of this printed list your director interviewed the exhibitors, consulted the information on hand, and prepared sixty-two appeals, which were presented to the jury of group through the assistant commissioner-general. This jury, so far as the department of varied industries was concerned, simply confirmed the findings of the class juries, and new appeals were therefore prepared and presented through the assistant commissioner-general to the superior jury. In addition to this a meeting was held between the presidents of each group, the assistant commissioner-general, and your director, and the appeals argued personally.

After this, some of those appeals which were not granted by the superior jury were presented to the committee of five left by the superior jury to finish its work, and one case was carried up and presented to the director of exploitation of the French administration after the committee of the superior jury had disbanded. The result of this work was that out of the sixty-two appeals fifty were granted, netting the department 6 grands prix, 13 gold medals, 15 silver medals, 13 bronze medals, 3 honorable mentions.

DECORATIONS.

On July 22 a request was received to submit for your consideration a list of those members of this department who might properly receive a decoration of the Legion of Honor, Public Instruction, or Mérite Agricole. The following list was handed to you and the names, it is believed, met with your approval:

Charles I. Cook, president, Tiffany & Co.
 Ed Holbrook, president, Gorham Manufacturing Company.
 L. C. Tiffany, Tiffany Glass and Decorating Company.
 W. W. Taylor, president, Rookwood Pottery Company.
 David W. Seligman, juror class 66.
 Francis Kimbel, juror class 69.
 Lazard Kahn, juror class 74.
 E. W. Dayton, juror class 92.
 Charles F. Green, juror class 95.
 W. E. Crist, assistant director.
 W. F. Wolf, juror class 75.

DISPOSAL OF MATERIAL.

The difficulty of disposing of material at the end of an exposition was strongly manifest here. One month before the close of the Exposition a list of all salable merchandise was made and mimeographed. This was mailed to all dealers in Paris who handled any of the goods listed. The list was also given to five salesmen, who agreed to dispose of it on a commission basis. The regular staff were also looking for purchasers, and one man was hired and spent one month solely on the

work, but with all this, much of the material had to be shipped back to the United States; and while the total cost of the merchandise offered for sale was about \$15,000 the amount eventually realized will not be over \$2,000.

CONCLUSION.

It will be seen that the total expense of the display in this department, including the Government expense and the expenses of the exhibitors, was in round figures \$450,000, representing the minimum profit on the sale of \$4,500,000 worth of merchandise. While the actual sales, retail and wholesale, during the Exposition netted only about one-eighth of this, the exhibitors with but few exceptions expressed themselves as well satisfied with the financial results and as more than pleased with the connections made in all parts of the world with dealers who had given sample orders and who expected these purchases to lead to important business.

The smallest amount spent by an exhibitor for his display was \$25, and the greatest amount expended for one exhibit for expenses alone was \$60,000.

STATISTICS.

The following table has been compiled from the replies to a circular sent to all exhibitors asking for the information here stated:

Class.	Value of exhibits.	Cost of installation.	Number of pieces.	Space in square feet.
66	\$55,665	\$7,945	5,466	5,245
67	32,250	1,944	936	1,611
68	25	185	100	1,000
69	126,650	37,362	3,444	8,477
70	6,451	9,883	1,427	2,032
71	5,130	6,154	2,143	1,740
72	2,000	37,625	4,257	6,115
73	15,550	27,300	3,042	8,844
74	22,007	39,692	1,199	2,193
75	5,700	21,050	202	1,316
92	17,350	32,831	29,895	1,258
93	1,351	6,800	825	168
94	1,200,950	105,775	10,090	2,797
95	31,445	230,079	3,458	1,769
96	8,700	19,950	2,105	1,715
97	32,000	12,900	450	1,876
98	6,850	11,963	2,296	780
99	1,800	7,200	562	2,534
100	10,100	11,719	2,429	1,823
Total	1,585,774	421,353	74,414	53,295

The following shows the number of exhibitors (in the same classes as are included in the department of varied industries at this Exposition) who took part in previous international expositions. In the case of the expositions held in the United States the figures given are for the nation that had the greatest number of exhibitors in these classes:

Philadelphia, 1876—Germany, 93.

Paris, 1878—United States, 131.

Paris, 1889—United States, 116.

Chicago, 1893— — — —.

Paris, 1900—United States, 317.

The following shows the awards taken by the United States for the classes included in the classification of 1900 at Paris, in 1878, 1889, and 1900, and the number taken by the foreign nation which received the greatest number compared with other visiting nations at the International Exposition held in the United States:

Philadelphia, 1876—France, 13.

Paris, 1878—United States, 82.

Paris, 1889—United States, 81.

Chicago, 1893— — — —.

Paris, 1900—United States, 260.

Cases forwarded.

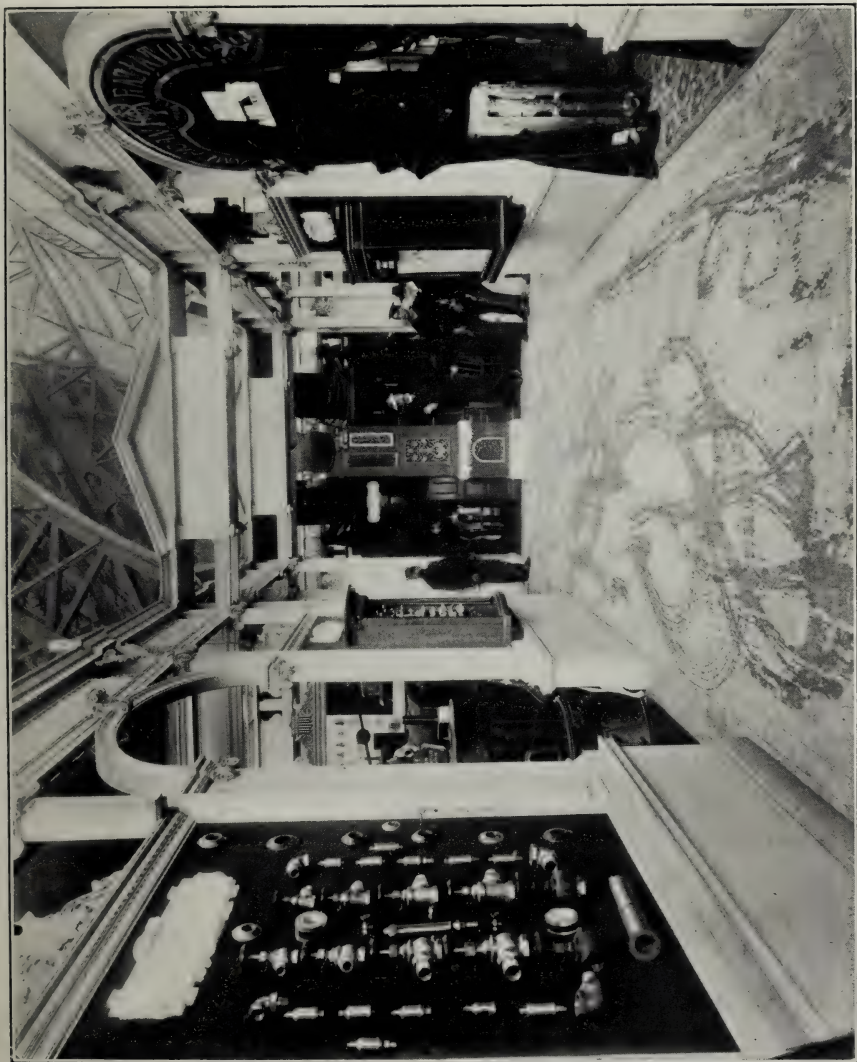
	Weight.	Number of cases.
	<i>Pounds.</i>	
S. S. Prairie.....	6,756	63
Other vessels.....	231,472	1,792
Total.....	238,228	1,855

Analysis of exhibitors in the department of varied industries.

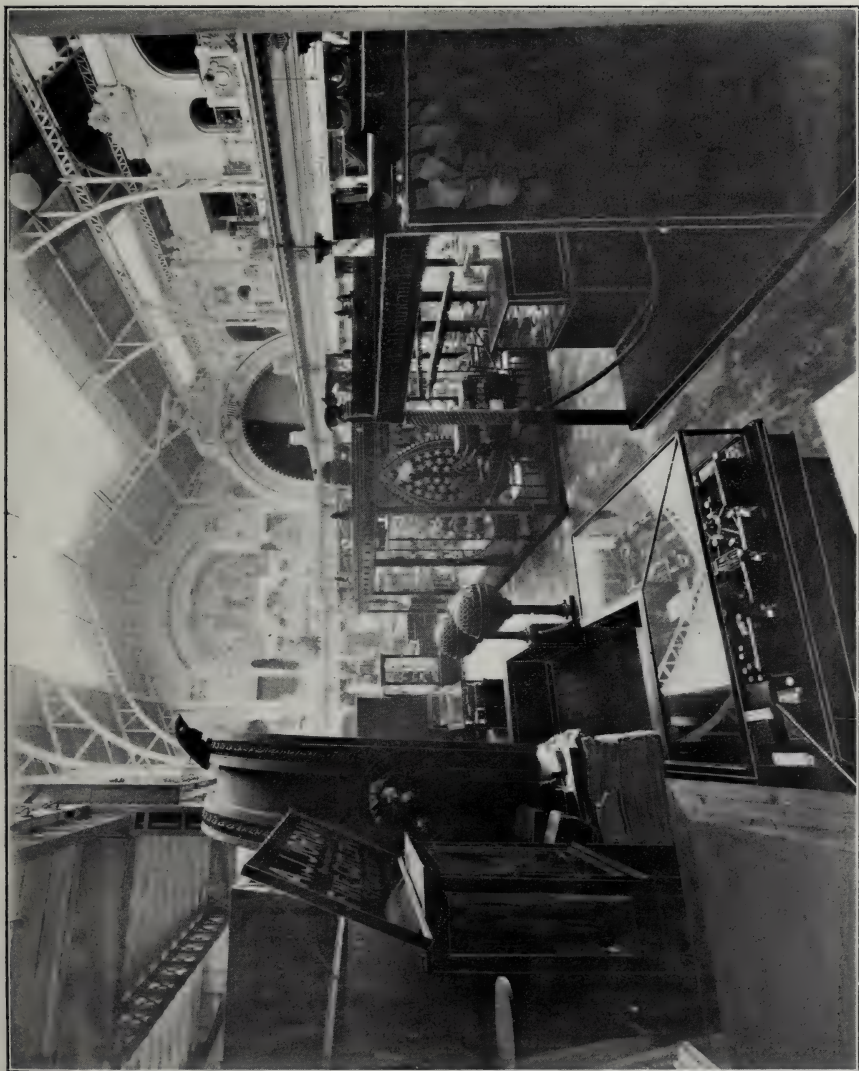
Class.	Applications.		Assignments.		Acceptances.		Occupation.	
	Num-ber.	Feet.	Num-ber.	Feet.	Num-ber.	Feet.	Num-ber.	Feet.
66.....	31	5,388	28	3,640	23	3,630	23	3,630
67.....	7	775	6	725	6	725	6	725
68.....	1		1	360	1	360	1	360
69.....	36	54,240	33	11,085	25	3,365	25	3,365
70.....	11	3,627	10	3,507	9	1,007	9	1,007
71.....	8	1,907	7	407	6	182	6	182
72.....	143	4,399	142	3,924	138	3,864	138	3,864
73.....	28	3,612	20	2,256	15	887	15	887
74.....	44	2,354	37	1,409	36	1,389	36	1,389
75.....	6	315	5	90	5	90	5	90
Group 12.....	315	76,927	289	27,403	264	15,499	264	15,499
92.....	30	3,265	22	1,907	17	1,067	17	1,067
93.....	7	694	6	670	6	54	6	54
94.....	8	1,466	6	1,041	6	1,041	6	1,041
95.....	13	851	7	467	7	467	7	667
96.....	12	2,045	8	1,361	6	406	6	406
97.....	22	166	22	166	22	166	22	166
98.....	18	1,819	12	952	11	352	11	352
99.....	8	1,480	5	1,180	4	805	4	805
100.....	8	704	8	704	7	640	7	640
Group 15.....	126	12,490	96	8,448	86	4,998	86	4,998
Department Varied Industries.....	441	89,417	385	35,851	350	20,497	350	20,497

LIST OF EXHIBITORS.

A circular letter was addressed during August, 1900, to each exhibitor, asking him to furnish a detailed description of his exhibit and calling attention to the progress made in his product since 1889, as exemplified by his display. In every instance where this request was complied with the description given has been incorporated in the following list.

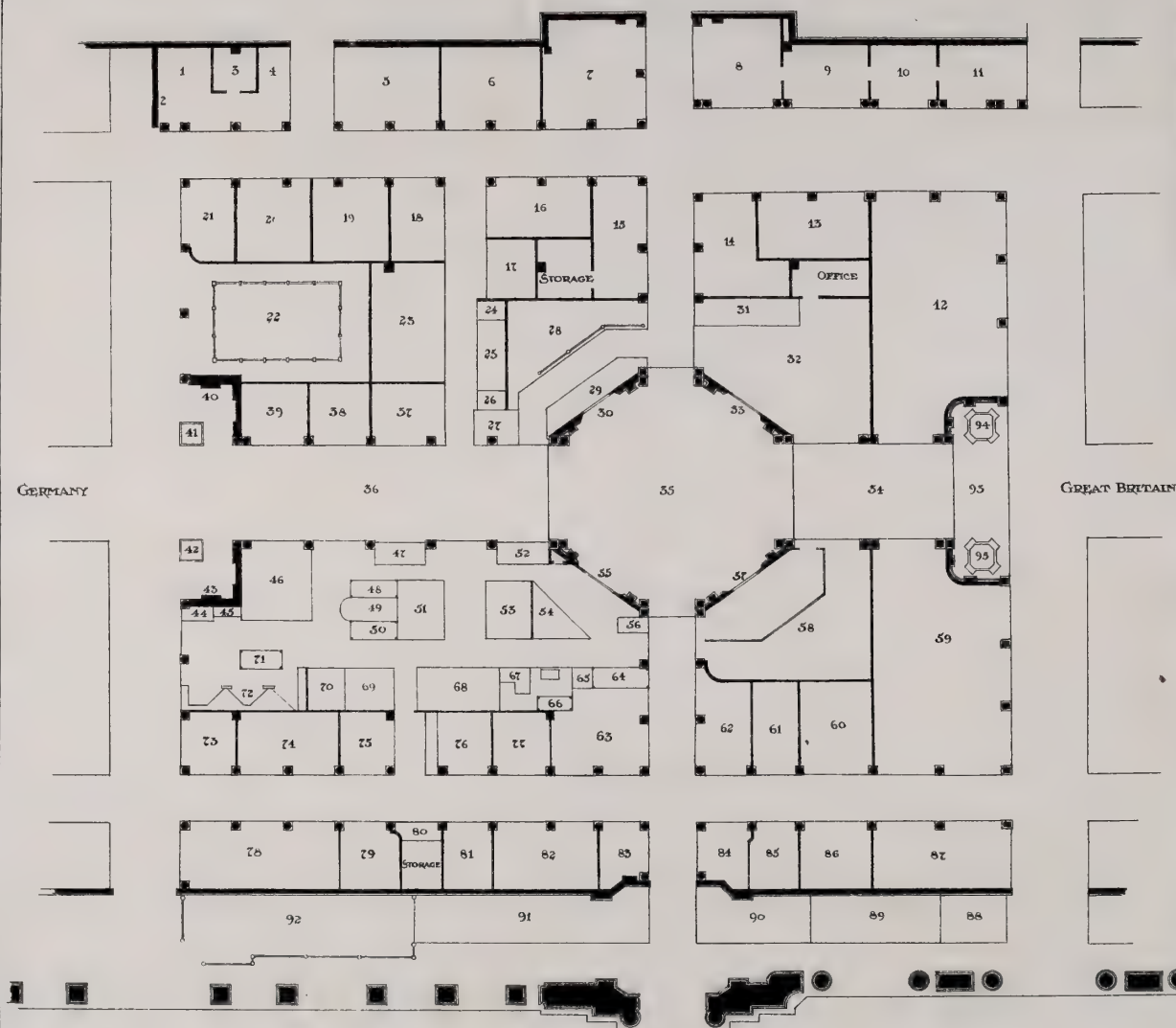


I-10. COLLECTIVE EXHIBIT OF HEATING AND VENTILATING APPARATUS, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.



I-11. SECTION OF OPEN INSTALLATION, VARIED INDUSTRIES SECTION, ESPLANADE DES INVALIDES.





PARIS EXPOSITION OF 1900
 PLAN OF INSTALLATION IN UNITED STATES SPACE,
 PALACE OF VARIED INDUSTRIES
 GROUPS XII & XV

0 5 10 15 20
 Scale of Feet

It is to be regretted that more replies were not received. The cuts shown are inserted here as the most logical part of the story of the department in which to illustrate the different booth installations used, but they are not intended as part of the description of the exhibit.

Location, description of exhibits, and awards received.

CLASS 66.

Name and address.	No. of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Barney Marble Co., Swanton, Vt.	.....	Marble slabs for lavatories of national pavilion.	.....	.....
Beil & Manch, Chicago, Ill.	.....	Ornamental plaster.....	Machinery, electricity, and agricultural sections.	Silver.
Karl Bitter, Weehawken, N. J.	94 and 95	Two groups entitled "Industry," located at entrance to department.	Floor, 12 by 6 feet; wall, 6 feet by 8 feet 7 inches.	Do.
Bridgeport Wood Finishing Co., New Milford, Conn.	96	Wood finisher and filler.	Floor, 6 by 2 feet; wall, 6 feet by 8 feet 7 inches.	Bronze.
Lyell Carr.....	.....	Painting on canvas.....	Frieze in pavilion, Standard Oil Co., Department of Mines and Metallurgy.	Silver.
Columbian Marble Quarrying Co., Rutland, Vt.	36	Marble floor tile.....	Floor, 62 by 19 feet.....	Gold.
Drake Co., St. Paul, Minn.	60 and 89	Arizona petrified wood.	Floor, 11 feet 10½ inches by 16 feet; wall, 34 by 13 feet.	Silver.
Thomas Eggleston, New York City.	.....	Design for façade, agricultural department.	.....	Do.
E. E. Garnsey, White Plains, N. Y.	.....	Mural decorations, national pavilion.	Wall, 25 feet 9 inches by 8 feet 8½ inches.	Do.
Healy & Millet, Chicago, Ill.	.....	Ornamental plaster façade.	88 by 13 by 3 feet.....	Do.
Albert Herter, Easthampton, Long Island, N. Y.	97	Painting on canvas entitled "Industrial arts," entrance to department.	Wall, 10 by 10 feet.....	Do.
Arthur Kitson, Philadelphia, Pa.	.....	Decorated lamp column. Exhibited in the Trocadero.	See class 75.....	.....
John Klee.....	98	Ornamental work in staff; façade and colonnade, Department of Varied Industries.	.....	Do.
G. W. Koch & Son, New York City.	.....	Hard-wood floors, floors national pavilion.	Floor, 47 by 36 feet.....	Do.
Augustus Koopman.....	99	Painting on canvas entitled "Industry," Department of Varied Industries.	Wall, 16 by 10 feet.....	Do.
Geo. Mertz & Sons, Port Chester, N. Y.	100	Ornamental wood molding and façade of Department of Liberal Arts and Glass of Heating and Ventilation.	Wall, 4 by 5 feet.....	Gold.
Henry S. Northrup, New York City.	101 to 104	Stamped-steel ceilings..	Ceiling, 12 by 35 feet; wall, 30 by 13 feet.	Silver.
Robert Reid, New York City.	.....	Mural decorations, national pavilion.	Wall, 30 by 10 feet.....	Gold.
Joseph H. Taft.....	.....	Decorations in wood and fabric; façade, Department of Textiles.	Floor, 216 feet by 1 foot 6 inches; wall, 13 feet.	Do.
Frank E. Wallis, New York City.	.....	Designer of façade, Department of Liberal Arts.	.....	Do.
John Zallee, St. Louis, Mo.	105	Asphalt roofing.....	Wall, 95 feet.....	.....
Winslow Bros., Chicago, Ill.	.....	Decorations in iron and bronze; façade, Department of Mines and Metallurgy.	Wall, 13 by 100 feet.....	Grand prix.
Oscar E. Brandt, New York City.	.....	Architectural drawings; façade, Department of Varied Industries.	2 by 4 feet.....	Bronze.

Location, description of exhibits, and awards received.

CLASS 67.

Name and address.	No. of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
California Art Glass Bending and Cutting Works, San Francisco, Cal.	106 and 107	2 stained-glass windows	Wall, 6 feet 10 inches by 5 feet 3 inches.	Silver.
J. & R. Lamb, New York City.	33	.....	8 by 12 feet.....	Do.

The stained-glass window exhibited was especially executed to show the advance made in the production of materials used in the decorative glass industry in the United States. All materials used were of native manufacture, and the completed window was made, as far as possible, a representative piece of American glass, both in design, material, and execution. The great advance made in the manufacture of American work since 1889 is shown in—

LEAD.

(A) The use of leads to emphasize the drawing. In mediæval glass the leads were placed without reference to the design, the design being painted and the leads merely used to fasten the different pieces of glass together. The American modification has been to place the leads at the main outlines of the design itself, thus using the leads as a part of the drawing.

(B) The width of leads. This idea has been carried still further by using leads of various widths. These widths vary from one-eighth of an inch to 1 inch, thus allowing the artist the same variety in the leading of glass that he has in the use of his crayons.

(C) The stiffening of leads by the use of especially prepared steel bars and flanges. With the increased size of lead it was found necessary to increase the area of the space between the bars. This was accomplished by the use of small bands of steel placed in the lead itself.

GLASS.

(A) The improved opal glass, made with the necessary opacity to stop strong light.

(B) The transparent opal glass; tendency toward the transparent color.

(C) Modeled or drapery glass.

(D) Hand-rolled glass.

(E) Transparent cathedral opals, possessing some of the qualities of European cathedral glass with some of the opal qualities as well.

COLOR.

(A) Color obtained by single thickness of glass, whether cathedral, opal, hand-rolled, or modeled glass.

(B) The effects of color obtained by use of plating: First, by use of glass applied to the back of the window; second, by the use of glass applied to the front of the window; third, by minor subdivisions of different colored glasses on the back of the window.

(C) Modifications of the color in large masses by overplating with transparent cathedrals, opals, or translucent opals.

In all windows, whether in ancient, mediæval, or modern times, the question of the flesh painting has been one of the most difficult to answer artistically. Where the conventional result secured by using black against transparent flesh glass was accepted there was the least difficulty to be overcome. In the modern school of American glass the richness of the medium itself prevented the conventional treatment of the flesh. It therefore became necessary to paint these parts of the window in flesh color of satisfactory density to harmonize the face, the hands, and the feet of the figure with the rich coloring of the drapery, foliage, and sky. The opacity of the enamel color was a detriment to the artistic result, to obviate which "overpainting" of the flesh was adopted. This gave the best results up to date. By experiments it was found that if portions of the drawing of the flesh were painted on the under glass and portions on the front glass a luminosity of result was secured unequalled by the old methods.

This form of flesh painting has been the outcome of many experiments on the part of Mr. Frederick S. Lamb and his assistant, Mr. Clay.

The improvements as enumerated above have made it possible for American glass to answer problems in design and color which are impossible to the continental art glass worker.

The extra strength of the leads makes it possible to support greater masses; a greater thickness of width of the leads makes it possible to carry out a design in a very vigorous way, so as to show a greater distance.

The denseness and richness of color in the hand-rolled and modeled opal glasses makes it possible to cover larger masses without tracery than has ever been attempted before; in other words, in the development of the American school of glass conditions for the execution of windows which will answer the requirements of great materials, whether ecclesiastical or civic, have been materially improved, and from the progress already made a new distinctive and successful school of decoration will be evolved.

Location, description of exhibits, and awards received—Continued.

CLASS 67—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Frank Lathrop, New York City.	30	Stained-glass window ..	Wall, 8 by 10 feet.....	Bronze.
Louis Tiffany, New York City.	55 and 57	2stained-glass windows.	Wall, 16 by 12 feet.....	Gold.
Tiffany Glass and Decorating Co., New York City. (See plate 40.)	.....	Stained-glass windows and favrile glass.	Floor, 29 feet 1½ inches by 24 feet ¾ inch; wall, 54 by 13 feet.	Do.
Fred Wilson.....	.....	Stained glass	With Tiffany Glass and Decorating Co.	Do.

CLASS 68.

William Campbell & Co., New York City.	108,109,110, and 111.	Wall paper	Ceiling, 30 by 12 feet; walls, 60 by 13 feet.	Silver.
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CLASS 69.

American School Furniture Co., New York City.	23	School furniture and carpet sweepers.	Wall, 46 by 13 feet; floor, 20 by 13 feet.	Silver.
Bicycle Step Ladder Co., Chicago, Ill.	112	Rolling store-service ladder for high shelving.	Wall, 1 foot 6 inches by 11 feet 6 inches.	Bronze.
F. E. Bierbrier, New York City.	.....	Revolving bookcase....	Floor, 17 feet 9 inches by 18 feet 10 inches; wall, 10 by 6 feet.	Do.
Brunswick-Balke-Collender Co., New York and Chicago. (See plate 41.)	7	Billiard tables and accessories.	Floor, 17 feet 9 inches by 18 feet 10 inches; wall, 10 by 6 feet.	Gold.
A. H. Davenport, Boston, Mass.	.....	Furniture, national pavilion.	Floor, 30 by 20 feet	Do.
Drake Co., St. Paul, Minn	.....	Furniture in petrified wood.	See class 66.....	.....
J. S. Ford Johnson, Chicago, Ill.	.....	Chairs	With Standard Furniture Co.	Silver.
Girard & Cutler.....	28	.....	Floor, 8 by 10 feet	Do.

The exhibit consisted of art furniture and showed what has been accomplished in the United States in carved and inlaid work. It was desired particularly to illustrate and emphasize the so-called "new art" style, which up to the present time has not been taken up extensively in the United States; and to show a special distinctive character widely different in treatment from the French and German style.

This exhibit created a very favorable impression, and was highly spoken of by competent critics and prominent art journals of Europe. Several pieces were bought by the Museum of Decorative Art at Leipzig.

Location, description of exhibits, and awards received—Continued.

CLASS 69—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Globe - Wernicke Co., Cincinnati, Ohio.	.....	Patented extension book-cases for libraries, department liberal arts.	Floor, 8 by 1 feet	Honorable mention.
Hayden Co., New York City.	113	Bank furniture, colonial design; modern show cases.	Floor, 30 by 8 feet	Silver.
Irving & Casson, Boston, Mass.	.....	Show cases, Grueby Fownes Co.	.....	.....

Location, description of exhibits, and awards received—Continued.

CLASS 69—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Keyless Lock Co., Indianapolis, Ind.	.....	Office desks, tables, and racks.	Post-office, national pavilion.	Silver.
Jno. C. Knupp & Bro., Baltimore, Md.	.....	Show cases.....	In department agriculture.	
Marks Adjustable Chair Co., New York City.	18	Adjustable chairs.....	Floor, 8 by 12 feet.....	Bronze.
Meador Furniture Co., Cincinnati, Ohio.	116	Show cases.....	Rockwood Pottery Co..	
Rockwell & Rupel, Chicago, Ill.	117	File cabinets.....	Floor, 2 by 9 feet.....	Do.
L. E. Palmer, Middletown, Conn.	16 and 91	Hammocks.....	See class 99.....	Do.
A. H. Revell & Co., Chicago, Ill.	.....	Stove fixtures, show cases.	Department mines and metallurgy.	
B. & W. B. Smith, New York City.	118 and 119	Show cases.....	Floor, 50 by 3 feet.....	
Standard Furniture Co., Herkimer, N. Y.	8, 9, 10, and 11.	Office and typewriter desks. <i>a</i>	Floors, 15 feet 7 inches by 12 feet; 15 feet 9 inches by 13 feet 10 inches, and 17 feet 6 inches by 10 feet 3 inches.	Grand prix.
Standard Manufacturing Co., Pittsburg, Pa. (See plate 43.) <i>a</i>	1	Bath tubs, water-closets, lavatories, sinks, etc.	Floor, 11 feet 5 inches by 15 feet 3 inches.	Do.
Joseph H. Taft, New York City.	.....	Furniture.....	See class 67.....	
A. J. Wells Manufacturing Co., Syracuse, N. Y.	18	File cabinets.....	Floor, 23 feet 6 inches by 2 feet; wall, 23 feet 6 inches by 5 feet.	Bronze.
Weston Paper and Manufacturing Co., Dayton, Ohio.	54	Stationers' store fixtures.	Floor, 5 by 9 feet; wall, 23 feet 6 inches by 5 feet.	Honorable mention.
John Widdicomb Co., Grand Rapids, Mich.	5 and 6	Bedroom furniture.....	Floor, 12 by 15 feet, 14 by 15 feet.	Silver.

CLASS 70.

Baldwin Bros. & Co., New York City.	.....	Illuminated leather, hand tooled, national pavilion.	Floor, 90 feet; wall, 2 by 3 feet.	Gold.
Farr & Bailey Manufacturing Co., Camden, N. J.	120 and 121	Floor linoleum; plain and decorated burlaps for floors and ceiling.	Floor, 14 by 12 feet; walls, 11 by 13 feet, 14 by 8 feet, and 11 by 13 feet; ceilings, 14 by 11 feet.	Bronze.
R. T. Hazzard & Co., New York City.	.....	Permanent decorations in burlaps.	Designed for Farr & Bailey Manufacturing Co.	
Northwestern Grass Twine Co., St. Paul, Minn.	15, 175, 176, 177, 178, 179, 180.	American matting.....	Floor, 21 by 9 feet; wall, 30 by 13 feet.	Gold.
Richter Manufacturing Co., Tenafly, N. J.	.....	Burlaps.....	Department liberal arts	
W. and J. Sloan, New York City.	121 and 122	Carpets and tapestries..	Floor, 24 by 15 feet.....	Do.
Joseph H. Taft, New York City.	.....	Upholstery of jute, leather and embroidery.	See class 66.....	
Mrs. Candace Wheeler, New York City.	123	Decorative embroidery.	Wall, 21 feet 1 inch by 9 feet 7½ inches.	Silver.
Ivins, Dietz & Metzger Co., Philadelphia, Pa.	124	Rugs and carpets.....	Floor, 20 by 10 feet.....	Do.
Annin & Co., New York City.	.....	Flags and bunting.....	Gala decorations for department.	
Stewart Hartshorne Co., East Newark, N. J.	.....	Decorative canopy shade rollers.	Floor, 13 by 14 feet; walls, 33 by 13 feet.	Silver.
Stephen Brainard Lawrence, New York City.	125 and 127	Decorative canopy, department varied industries.	Floor length, 320 feet; wall, 8 by 13 feet.	
Singer Manufacturing Co., New York City.	127	Embroidered bed coverings and hangings.	Wall, 4 by 30 feet.....	
Joseph H. Taft, New York City.	.....	Upholsterers' decorations.	See class 66.....	
Tiffany Glass and Decorating Co., New York City.	.....	Decorative hangings...	See class 67.....	

a This company loaned the Commission, free of expense, about 30 desks for use in the Paris office, and about 60 desk chairs.

Location, description of exhibits, and awards received—Continued.

CLASS 72.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Miss Eva E. Adams, Chicago, Ill.	92	Decorated china.....	Ceramic Art Club.....	Silver.
American Clay Working Machine Co., Bucyrus, Ohio.		Assorted machines for making bricks.	Floor, 40 feet 2 inches by 12 feet 5½ inches; wall, 40 feet 2 inches by 12 feet 5½ inches.	
American Encaustic Tile Co., New York City.	35	Mosaic and encaustic tile.	Floor 38 by 38 feet	Gold.
Miss Miriam Annspangle, Dallas, Tex.		Decorated china.....	With National League Mineral Painters.	Bronze.
Art Department of Newcourt College, New Orleans, La.		do.....	do.....	
Leonore Asbury, Cincinnati, Ohio.	40	Pottery designs.....	do.....	Do.
Atlan Ceramic Art Club, Chicago, Ill.		Decorated china.....	Wall, 4 by 6 feet.....	
F. B. Aulich, Chicago, Ill.		do.....	With National League Mineral Painters.	Do.
Mrs. Frank Baiseley, Brooklyn, N. Y.		do.....	do.....	
Constance A. Baker, Cincinnati, Ohio.		Pottery designs.....	do.....	Do.
Miss Martha Beach, Bridgeport, Conn.		Decorated china.....	do.....	
Miss Grace Beebe, Boston, Mass.		do.....	do.....	Do.
Mr. A. Bischoff, Detroit, Mich.		do.....	do.....	
Miss Myra Boyd, Pittsburg, Pa.		do.....	do.....	Do.
Miss Elsie E. Browning, Pittsburg, Pa.		do.....	do.....	
Miss Mary Burrows, New York City.		do.....	do.....	Do.
Miss Mariam F. Candler, Detroit, Mich.		do.....	do.....	
Clement Chaussigros, Bridgeport, Conn.		Decorated pottery.....	do.....	Do.
Mrs. K. Cherry, St. Louis, Mo.		Decorated china.....	do.....	
Miss Tillie E. Cole, Chicago, Ill.	34	do.....	With Atlan Ceramic Art Club.	Do.
Columbia Eneastic Tile Co., Anderson, Ind.		Mosaic tile	Floor, 32 by 16 feet.....	
Miss Louise Cowen, Detroit, Mich.		Decorated china.....	National League Mineral Painters.	Do.
Sally E. Coyne, Cincinnati, Ohio.		Pottery designs.....	do.....	
Mrs. A. B. Crane, Chicago, Ill.		Decorated china.....	do.....	Do.
Russell G. Crook, Boston, Mass.		Jungle Book tiles.....	do.....	
Mrs. Nellie A. Cross, Chicago, Ill.		Decorated china.....	do.....	Do.
Mrs. S. V. Culp, San Francisco, Cal.		Overglaze decoration on china.	do.....	
Matt A. Daly, Cincinnati, Ohio.		Pottery designs.....	do.....	Do.
Mrs. A. T. Damon, Bridgeport, Conn.		Decorated china.....	do.....	
Dedham Pottery Co., Dedham, Mass.		do.....	do.....	Do.
Miss M. C. Dexter, New York City.		do.....	do.....	
Miss Mabel C. Dibble, New York City.		do.....	do.....	Do.
E. G. Diers, Cincinnati, Ohio.		Pottery designs.....	do.....	
Mrs. C. B. Doremus, Miss Ella Fairbanks, Boston, Mass.		Decorated china.....	do.....	Do.
Rose Techheimer, Cincinnati, Ohio.		do.....	do.....	
Edith R. Felton, Cincinnati, Ohio.		Pottery designs.....	do.....	Do.
		do.....	do.....	

Honorable mention.

Location, description of exhibits, and awards received—Continued.

CLASS 72—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Miss Ida Ferris, Fostoria, Ohio.		Decorated china.....	National League Mineral painters.	
Mrs. Theodore W. Field, Brooklyn, N. Y.		do.....	do.....	
Mrs. S. S. Frackleton, Milwaukee, Wis.		Artistic pottery.....	Floor, 4 by 16 feet; wall, 4 by 4 feet.	Bronze.
Mrs. A. A. Frazier, Chicago, Ill.		Decorated china.....	With Atlan Ceramic Art Club.	
Mrs. Marshall Fry, New York City.		do.....	do.....	
Marshall Fry, jr., New York City.		do.....	do.....	
Cutler (C. C.) and Girard (M.), New York City.		Artistic pottery.....	See class 69.	
Mrs. Joseph H. Gordon, Grueby Faience Co., Boston, Mass. <i>a</i>	31	Decorated china.....	do.....	Gold.
H. Grueby, Ashmont, Mass.	130	Enamels and riler burner.	Floor, 18 by 4 inches; wall, 18 by 13 feet.	
Mrs. Ida Story Hammond, Lake City, Minn.		Decorated china.....	Floor, 2 by 4 feet.....	
Jennie E. Hanson, New Haven, Conn.		do.....	With National League Mineral Painters.	
Miss L. F. Harrison, Detroit, Mich.		do.....	do.....	
Misses M. and E. Healy, Washington.	43	do.....	Floor, 4 feet by 1 foot 6 inches; wall 4 by 4 feet.	Silver.
Mrs. Philip Holger, Bridgeport, Conn.		do.....	With National League Mineral Painters.	
Miss Zeta Horiocher, New York City.		do.....	do.....	
Mrs. Edward L. Humphrey, Chicago, Ill.		do.....	do.....	
Miss Hattie Hurd, Bridgeport, Conn.		Porcelain miniature.....	do.....	
E. T. Hurley, Cincinnati, Ohio.		Designs for pottery.....	do.....	
Mrs. William Ireland, jr., San Francisco, Cal.		Pottery.....	do.....	Honorable mention.
Miss Ida A. Johnson, Brooklyn, N. Y.		Decorated china.....	do.....	
Mrs. Charles Keeler, Paterson, N. J.		do.....	do.....	
Sophie Gaskill Keenan, Pittsburg, Pa.		Ceramic ivory miniatures.	do.....	
George P. Kendrick, Brookline, Mass.		Designs for pottery.....	do.....	
Sturgis Lawrence, Cincinnati, Ohio.		do.....	do.....	
John Farolle, Boston, Mass.		Moorish tile designs.....	do.....	
Mrs. Adele V. Lawson, Chicago, Ill.		Decorated china.....	do.....	
Mrs. A. B. Leonard, New York City.		do.....	do.....	
Miss G. Leonard, New York City.		do.....	do.....	
Mrs. Harriet N. Leonard, Detroit, Mich.		do.....	do.....	

a The exhibit of the Grueby Faience Company in Paris comprised chiefly a collection of about 100 specimens of Grueby pottery selected from the best that has been produced since the present members of the company became associated together in 1897. The Grueby products have never before appeared in an international exposition. One point which it was particularly desired to illustrate (see plate 44) was the smooth, lusterless character of the enamels and rich, varied tones of color, unlike the Japanese pottery or the recent achievements in foreign or American ceramics. Another was the unique character of the forms upon which the enamels were used, the aim being to give the form of the object equal importance with the color and quality of surface, combining dignity and simplicity and using ornament not as an extraneous addition to an already completed vase, but as a structural part of the body itself.

One of the collaborators, Mr. William Henry Grueby, discovered, applied, and fired the enamels, while of the others who received medals from the jury, Mr. George Prentiss Kendrick originated the design and directed the modeling of each piece. The different pieces were turned by hand on the potter's wheel, while the ornaments were modeled by hand by a specially trained corps of young men and women, graduates of the Boston School of Arts. They were assisted by a young Japanese artist who had received his training in the potteries of Yokohama.

Location, description of exhibits, and awards received—Continued.

CLASS 72 -Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
National League of Mineral Painters, Brooklyn, N. Y. <i>a</i>	39	.....	Floor, 12 by 10 feet; wall, 23 by 13 feet.	Bronze.
Clara L. Lindeman, Cincinnati, Ohio.	Designs for pottery	National League Mineral Painters.	
Mrs. Marian W. Long, Chicago, Ill.	Decorated china .....	.....do.....	
R. M. McCreery, Chicago, Ill.do.....	With Atlan Ceramic Art Club.	
W. P. McDonald, Cincinnati, Ohio.	Designs for pottery	With National League Mineral Painters.	
Miss M. Louise MacLaughlin, Cincinnati, Ohio.do.....	.....do.....	
Mrs. Howard A. MacLean, New York City.	Decorated china .....	.....do.....	
Miss Mary MacMaster, Detroit, Mich.do.....	.....do.....	
Miss Frances X. Marquard, New York City.do.....	.....do.....	
Miss B. Mason, New York City.do.....	.....do.....	
Miss M. Mason, New York City.do.....	.....do.....	
Miss E. Mayhew, Boston, Mass.do.....	.....do.....	
Miss Helen E. Montfort, New York City.do.....	.....do.....	
Mrs. W. C. Moreland, jr., Brooklyn, N. Y.do.....	.....do.....	
Mrs. Ada White Morgan, Minneapolis, Minn.do.....	.....do.....	Honorable mention.
Mrs. Percy Nasmyth, Detroit, Mich.do.....	.....do.....	
Miss Fanny Neal, New York City.do.....	.....do.....	
Mary Allen Neal, New York City.do.....	.....do.....	
Mary Nourse, Cincinnati, Ohio.	Designs for pottery .....	.....do.....	
George E. Ohr, Biloxi, Miss.	Decorated china .....	.....do.....	
Felix Olcan, Zanesville, Ohio.	Design in tile .....	.....do.....	
Mrs. E. A. Osbon, New York City.do.....	.....do.....	
Mrs. Worth Osgood, New York City.do.....	.....do.....	Do.
Laura B. Overly, Pittsburgh, Pa.do.....	.....do.....	
Mrs. H. B. Wright Paist, Minneapolis, Minn.do.....	.....do.....	Do.
Miss Zena B. Patton, Detroit, Mich.	Decorated china .....	.....do.....	
Miss Grace H. Peek, Chicago, Ill.do.....	.....do.....	
Mrs. M. E. Perley, San Francisco, Cal.	Overglaze decoration .....	.....do.....	
Miss Pearl Wanita Phelps, Brooklyn, N. Y.	Decorated china .....	.....do.....	
Mrs. L. Vance Phillips, New York City.do.....	.....do.....	
Miss Mary A. Phillips, Chicago, Ill.do.....	.....do.....	
Miss E. M. Pierce, New York City.do.....	.....do.....	

*a*The display consisted of 232 pieces. These pieces were over-glazed decorated porcelain, and pottery molded from the clay, decorated under the glaze, or dull finish, and fired (see plate 45). The work of 70 studios was represented.

The New York Ceramic Art Society sent the largest exhibit, it being represented by 25 students.

The work of these studios throughout the United States was all of a high order, and thousands of visitors from America learned for the first time that they could order their china decorated in their own country and obtain exquisite and artistic work.

This league is made up of studios throughout all the large cities of the United States. These studio workers form themselves into local clubs, affiliated with the national league, whose president, officers, and board of control have their headquarters in New York.

The exhibit attracted the marked attention of the decorators and representatives of the foreign potteries. The Doulton, Royal Berlin, Sevres, Limoges, and the Russian directors were enthusiastic.

Location, description of exhibits, and awards received—Continued.

CLASS 72—Continued.

Name and address.	Number of spaces on plan.	Description of exhibit.	Size and space.	Medal awarded.
Miss Cornelia S. Post, Jersey City, N. J.		Decorated china	With National League Mineral Painters.	
Mrs. M. F. Prince, Bath Beach, N. Y.		do	do	
Geneva Reed, Cincinnati, Ohio.		Decorations for pottery	do	
Adelaide Alsop Robineau, New York City.		Decorated china and miniatures on porcelain.	do	
Rookwood Pottery Co., Cincinnati, Ohio, ^a			Floor, 18 by 14 feet; wall, 30 by 13 feet.	Grand prix.
F. Rothenbusch, Cincinnati, Ohio.		Decorations for pottery	do	
Mrs. Fanny Rowell, New York City.		Decorated china	do	
Sara Sax, Cincinnati, Ohio.		Decorations for pottery	do	
Charles Schmidt, Cincinnati, Ohio.		do	do	
A. D. Sehon, Cincinnati, Ohio.		do	do	
Mrs. F. M. Sessions, Chicago, Ill.		Decorated china	Atlan Ceramic Art Club.	
Mr. H. W. Sharrdui, Reading, Pa.		do	National League Mineral Painters.	
Katoro Shirayamadani, Cincinnati, Ohio.		Decorations for pottery	do	
Harry E. Simmons, New York City.		Decorated china	do	
Amelia B. Sprague, Cincinnati, Ohio.		Decorations for pottery	do	
Carrie E. Steiniz, Cincinnati, Ohio.		do	do	
Mrs. Henry P. Stewart, White Plains, N. Y.		Decorated china	do	
Mr. Fred M. Steele, Chicago, Ill.		do	Atlan Ceramic Art Club.	
Mrs. Maria Longworth Storer, United States legation, Madrid. (See plate 47.)	42	Art pottery	Floor, 11 feet 5 inches by 15 feet 3 inches.	Gold.
Mrs. Caroline L. Swift, Roxbury, Mass.		Decorated china	National League Mineral Painters.	
Mary Taylor, New York City.		Mineral painting	do	
Sallie Toohey, Cincinnati, Ohio.		Decorations for pottery	do	
Miss Helen M. Topping, Chicago, Ill.		Decorated china	do	
Trenton Potteries Co., Trenton, N. J. (See plate 48.)	4	Earthenware, bath tubs, water-closets. ^b	Floor, 11 feet 5 inches by 15 feet 3 inches; wall, 22 feet by 8 feet 7 inches by 15 feet 3 inches.	Do.
Trenton Tile Co., Trenton, N. J.	2 and 3	Floor, wall, and ceiling.	Floor, 22 feet 10 inches by 15 feet 3 inches; wall, 22 feet 10 inches by 8 feet 7 inches by 15 feet 3 inches.	Bronze.
Anna M. Valentine, Cincinnati, Ohio.		Designs for pottery	National League Mineral Painters.	
A. R. Valentine, Cincinnati, Ohio.		do	do	
Ortus Van Briggie, Cincinnati, Ohio.		do	do	
Mr. Charles Volkmer, Corona, N. Y.		Decorated china	do	
Mrs. M. L. Wagner, Detroit, Mich.		do	do	

^a This exhibit (see plate 46) consisted of underglazed decorated faience. On the artistic side it was desired to show the progress since 1889, not only in increased variety of colors and decorative subjects, but also in the artistic use of the new materials thus provided. It is fair to say that in vitality and beauty of artistic expression the exhibit was unsurpassed. This is mainly due to the method of organization at Rookwood, which carefully preserves the artistic individuality of its collaborators, while affording them every advantage which capital and the application of modern scientific methods and organization can afford them.

^b This company furnished free of expense the lavatories in the national pavilion.

Location, description of exhibits, and awards received—Continued.

CLASS 72—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Mrs. W. C. Walter, Pittsburg, Pa.		Decorated china	National League Mineral Painters.	
J. D. Wareham, Cincinnati, Ohio.		Designs for pottery.....	.....do.....	
Mrs. Olive Wilcox, Indianapolis, Ind.		Decorated china.....	.....do.....	
Harriet E. Willcox, Cincinnati, Ohio.		Designs for pottery.....	.....do.....	
Grace Young, Cincinnati, Ohio.		.....do.....	.....do.....	
Mrs. Henrietta C. Zenoblin, Cincinnati, Ohio.		.....do.....	.....do.....	
Josephine E. Zettle, Cincinnati, Ohio.		.....do.....	.....do.....	
Tiffany Glass and Decorating Co., New York City.		.....do.....	See class 67.....	Silver.
American Optical Co., Southbridge, Mass.		Lenses.....	With Le Maitre Optical Co.	Bronze.
Bay State Optical Co., Attleboro, Mass.	87	Spectacle frames	Floor, 24 feet 3½ inches by 11 feet; wall, 31 feet 3½ inches by 11 feet 6 inches by 8 feet.	Honorable mention.
Chambers, Inskip & Co., Chicago, Ill.		Optalometer	With Le Maitre Optical Co.	
Holophane Glass Co., New York City.	62	Pressed glass globes for reflecting light.	Floor, 17 feet, 2½ inches by 10 feet 9 inches; wall, 27 feet 11½ inches by 13 feet.	Gold.
Hygienic Optical Co., New York City.	85	Lenses.....	Floor, 11 by 11 feet; wall, 25 feet by 13 feet by 8 feet.	
Julius King Optical Co., New York City.		Patented specialties....	With Le Maitre Optical Co.	Bronze.
Le Maitre Optical Co., New York City.	86	Lenses.....	Floor, 11 feet 10½ inches by 11 feet 10½ inches; wall, 26 feet by 11 feet 6 inches by 18 feet.	Do.
Adelaide Kusted Long, New York City.		Colored glass window ..	National League Mineral Painters.	
S. Lubin, Philadelphia, Pa.	74	Lenses.....	Floor, 13 by 13 feet; wall, 44 by 13 feet.	
Manhattan Optical Co., New York City.	65	Lenses and cameras	Floor, 4 by 3 feet	
New York Novelty Co., Brooklyn, N. Y.		Imitations of precious stones.	With S. Lubin.....	
Pittsburg Plate Glass Co., New York City.		Plate glass throughout the entire department.	Wall, 6,000 square feet ..	Hors concours.
John Simmons Co., New York City.		Lenses.....	With Le Maitre Optical Co.	
Spencer Optical Co., New York City.		.....do.....	.....do.....	Bronze.
Tiffany Glass and Decorating Co., New York City.		Artistic glass	See class 69.....	
American Radiator Co., Chicago, Ill.	141	Radiators and boilers ..	Floor, 23 feet 5½ inches by 12 feet 8 inches; wall, 35 feet 11½ inches by 13 feet by 89 feet.	Grand prix.
Ashton Valve Co., Boston, Mass.	142	Valves.....	Wall, 3 by 5 feet.....	Bronze.
A. C. Burler Manufacturing Co., Chicago, Ill.	143	Oil stoves.....	Floor, 3 feet by 3 feet 3 inches.	Do.
Estate of P. D. Beckwith, Dowagiac, Mich.	144	Heating stoves, "Round Oak."	Floor, 6 by 2 feet.....	Silver.
Chief of district police at Boston, Mass.	145	Plans for heating public buildings.	Wall, 3 by 4 feet	Bronze.
Board of education, New York City.	146	.....do.....	Wall, 4 by 4 feet	Do.
Geo. M. Clark & Co., Chicago, Ill.	147	Gas and gasoline stoves, ranges, etc.	Floor, 7 feet by 7 feet 2 inches.	Gold.
Cortland Howe Ventilating Co., Cortland, N. Y.	148	Stoves	Floor, 2 feet 4 inches by 2 feet 4 inches.	Silver.
Abram Cox Stove Co., Philadelphia, Pa.	150	Stoves and furnaces	Floor, 10 by 5 feet.....	Bronze.
Judson A. Goodrich Co., Philadelphia, Pa.	151	Steam specialties	Floor, 4 by 6 feet.....	Honorable mention.

Location, description of exhibits, and awards received—Continued.

CLASS 72—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Griswold Manufacturing Co., Erie, Pa.	152	Kitchen utensils and oil stoves.	Floor, 3 by 7 feet; wall, 7 feet by 8 feet 3 inches.	Honorable mention.
Hart & Crouse, Utica, N. Y.	153	Water boilers.....	Floor, 6 by 5 feet.....	Silver.
Herendeen Manufacturing Co., Geneva, N. Y.	154	Boilers, radiators, and valves.	Floor, 8 by 5 feet; wall, 13 by 8 feet.	Do.
International Heater Co., New York City.	155	Boilers, stoves, etc.....	Floor, 14 by 5 feet; wall, 14 by 10 feet.	Gold.
W. M. Mackey, secretary, New York City.	174	Plans of ventilating systems.	Wall, 4 by 4 feet.....	Bronze.
Kieley & Muler, New York City.	156	Valves, cocks, and damper regulators.	Floor, 3 feet by 3 feet 9 inches.	Do.
Magee Furnace Co., Boston, Mass.	157	Ranges, heaters, and furnaces.	Floor, 7 feet 6 inches by 6 feet 6 inches; wall, 7 feet 6 inches by 4 feet.	Gold.
Mahoney Manufacturing Co., Troy, N. Y.	158	Heating boilers.....	Floor, 5 by 10 feet.....	Honorable mention.
Michigan Stove Works, Detroit, Mich.	159	Heating stoves and ranges.	.....do.....	Gold.
Model Heating Co., Philadelphia, Pa.	160	Sectional boilers for steam and water.	.....do.....	Do.
J. L. Mott Iron Works, New York City.	161	Boilers and radiators...	Floor, 7 feet by 8 feet 6 inches.	Do.
New York Blower Co., New York City.	162	Blowers, fans, and heaters.	Floor, 5 by 7 feet.....	Honorable mention.
Philadelphia Hardware and Malleable Iron Works, Philadelphia, Pa.	163	Radiators, registers, and iron fittings.	Floor, 5 by 6 feet.....	Do.
Phillips & Clark Stove Co., New York City.	164	Range.....	Floor, 5 by 5 feet.....	Bronze.
Powers Regulator Co., Chicago, Ill.	165	Automatic apparatus to regulate temperature.	Floor, 7 feet by 7 feet 2 inches.	Silver.
Rochester Radiator Co., Rochester, N. Y.	166	Economical heating apparatus.	Floor, 3 feet by 3 feet 3 inches.	Honorable mention.
Wm. B. Scaife & Sons, Pittsburg, Pa.	167	Ranges, boilers, and expansion tanks.	Floor, 8 by 10 feet.....	Do.
Smith & Anthony, Boston, Mass.	168	Furnace.....	Floor, 3 by 10 feet.....	Silver.
Thomas Roberts Stevenson & Co., Philadelphia, Pa.	169	Stoves and ranges.....	Floor, 4 by 5 feet.....	Honorable mention.
Troy Nickel Works, Albany, N. Y.	170	Stove hardware.....	Wall, 4 by 3 feet.....	Do.
Tuttle & Bailey, New York City.	171	Registers and ventilators.	Floor, 3 feet by 3 feet 8 inches.	Bronze.
Warren, Webster & Co., Camden, N. J.	172	Systems heating.....	Floor, 4 by 8 feet.....	Gold.
Wagner Manufacturing Co.	17	Aluminum ware.....	Floor, 10 by 10 feet; wall, 30 by 10 feet.	Bronze.
Tukenheimer & Co.....		Valves, department machinery.	.....do.....	Silver.
Crane & Co.....		.....do.....	.....do.....	Do.
Draper Self Registering Co., New York City.	173	Thermometers.....	Wall, 2 feet 6 inches by 1 foot 6 inches.	

CLASS 75.

Thomas Adams & Co., Brooklyn, N. Y.	83	Automatic gas lighter..	Floor, 7 feet 11 inches by 11 feet 10 inches; wall, 8 feet 9 inches by 13 feet, and 6 feet 10 inches.	Bronze.
Cassidy and Son Manufacturing Co., New York City.		Gas and electric fixtures.	With Holophane Glass Co.	
Holophane Glass Co., New York City.		Globes, reflectors, shades, etc.	See class 73.....	Silver.
Arthur Kitson, Philadelphia, Pa.		Arc lamps giving an incandescent light from sprayed oil.	Trocadero, 200 by 2 feet.	Gold.
Tiffany Glass and Decorating Co., New York City.		Globes and shades.....	See class 67.....	Bronze.

Location, description of exhibits, and awards received—Continued.

CLASS 92.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
American Lead Pencil Co., New York City.	64	Pencils and pens	Floor, 2 feet 6 inches by 7 feet.	Gold.
American Book Co., New York City.	72	Copy books	Wall, 4 by 10 feet.....	
Blair Fountain Pen Co., New York City.	131	Fountain pens.....	Wall, 3 by 3 feet.....	Bronze.
Caws Pen and Ink Co., New York City.	46	Fountain and stylographic pens and ink.	Floor, 8 by 10 feet; wall, 8 by 8 feet.	Silver.
Crane Brothers, Westfield, Mass.	52	Linen ledger and record passers.	Floor, 3 by 3 feet; wall, 3 by 5 feet.	Gold.
Hinde & Dauch, New York City.	132	Bottle wrappers	Floor, 3 by 3 feet	Bronze.
Inman American Box Machine Co., New York City.	78	Paper-box-making machines.	Floor, 32 feet 7 inches by 10 feet.	Silver.
Neostyle Envelope Co., New York City.	63	Envelope-making machine.	Floor, 20 by 13 feet.....	Do.
Pomeroy Brothers, East Newark, N. J.	48	Ink, mucilage, sealing wax, rubber stamps, etc.	Floor, 7 feet by 2 feet 6 inches.	Do.
R. H. Smith Manufacturing Co., Springfield, Mass.	88	Office stamps	Floor, 10 by 7 feet; wall, 10 by 10 feet.	Bronze.
Tiffany & Co., New York City.	.....	Stationery and printing	See class 95.....	Gold.
Union Bag and Paper Co., Chicago, Ill.	68	Paper bags	Floor, 15 by 5 feet; wall, 15 by 15 feet.	Do.
United States Playing Card Co., Cincinnati, Ohio.	50 and 51	Playing cards	Floor, 7 by 8 feet; wall, 6 by 11 feet.	Grand prix.
L. E. Waterman & Co., New York City.	53	Fountain pens	Floor, 7 by 8 feet; wall, 6 by 8 feet.	Gold.
Weston Paper and Manufacturing Co., Dayton, Ohio.	.....	Paper specialties and stationery.	See class 69.....	Silver.
Whiting Paper Co., Holyoke, Mass., and New York City.	47	Writing paper, envelopes, and paper novelties. <i>a</i>	Floor, 7 feet by 2 feet 6 inches; wall, 7 by 6 feet.	Grand prix.
National Cash Register Co., Dayton, Ohio.	27	Cash registers	Floor, 6 by 6 feet.....	Do.
Tenney & Co .....	.....	Department of liberal arts.	.....	Honorable mention.

CLASS 93.

American Shearer Co., Nashua, N. H.	133	Hair clippers	Floor, 3 by 3 feet; wall, 3 by 6 feet.	Gold.
Brown & Sharp, Providence, R. I.	134	Clippers	Wall, 2 by 3 feet	Do.
Gem Cutlery Co., New York City.	70	Safety razors	Floor, 4 by 5 feet; wall, 4 by 8 feet.	Silver.
A. J. Jordan, St. Louis, Mo.	67	.....do	Floor, 5 by 5 feet; wall, 5 by 8 feet.	Do.
Peck & Snyder, New York City.	.....	Ice and roller skates ...	With A. G. Spalding & Bros.	Do.
Tiffany & Co., New York City.	.....	Silversmiths' small ware.	See class 95.....	Do.

CLASS 94.

Gorham Manufacturing Co., New York City.	12	Silver and goldsmiths' ware.	Floor, 20 by 50 feet; wall, 50 by 13 feet.	Grand prix.
Alvin Manufacturing Co.	66	Electro-deposited silver on patterns.	Floor, 3 by 5 feet.....	Bronze.
Attleboro Manufacturing Co., Attleboro, Mass.	.....	Jewelry	See class 95	
F. W. Sandberg, Chicago, Ill.	26	Gold and silversmiths' work done wholly.	Floor, 4 by 4 feet; wall, 4 by 4 feet.	Honorable mention.
S. S. Taylor, Hartford, Conn.	135	Burnishing tools	Wall, 3 feet by 3 feet 9 inches.	Do.
Tiffany & Co., New York City.	.....	Gold and silversmiths' work, enamel work, etc.	See class 95	Grand prix.

a This company furnished free of expense 25,000 sheets and envelopes for use in the national pavilion.

Location, description of exhibits, and awards received—Continued.

CLASS 95.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
Attleboro Manufacturing Co., Attleboro, Mass.	75	Jewelry and novelties..	Floor, 10 by 9 feet; wall, 20 by 13 feet.	Silver.
Azure Mining Co., New York City.	41	Turquoise	Floor, 5 by 5 feet.....	Gold.
Barber Jewelry Co., New York City.	.....	Pyrites jewelry and alligator teeth.	Floor, 16 by 10 feet; wall, 10 by 26 feet.	Bronze.
Mrs. William Clapp, Chicago, Ill.	136	Jewelry	Floor, 2 by 3 feet.....	Honorable mention.
S. A. Rider Jewelry Co., St. Louis, Mo.	76	Jewelry and fancy goods	Floor, 8 feet 6 inches by 10 feet; wall, 8 by 18 feet.	Bronze.
F. W. Sandberg, Chicago, Ill.	.....	Jewelry	See class 99	Do.
Tiffany & Co., New York City.	59	Jewelry and precious stones.	Floor, 20 by 50 feet; wall, 50 by 13 feet.	Grand prix.

CLASS 96.

Automatic Electric Clock Co., Chicago, Ill.	80	Automatic electric clocks.	Floor, 10 by 3 feet; wall, 10 by 13 feet.	Gold.
Brandt Dent Co., Watertown, Wis.	.....	Cash register	Post-office, national pavilion.	Honorable mention.
Bundy Manufacturing Co., Binghamton, N. Y.	37	Time clocks	Floor, 13 feet 6 inches by 10 feet; wall, 23 feet 6 inches by 14 feet.	Silver.
Chicago Time Register Co., Chicago, Ill.	77	.....do	Floor, 10 by 7 feet; wall, 27 by 13 feet.	Bronze.
Robt. W. Ingersoll & Bros., New York City.	38	Watches.....	Floor, 10 by 11 feet; wall, 32 by 13 feet.	Honorable mention.
International Computing Machine Co., Chicago, Ill.	137	Comptometer.....	Floor, 6 by 10 feet.....	Do.

CLASS 97.

Mrs. Ames, Baltimore, Md.	.....	Bronzes	Henry Bonnard Bronze Co.	Honorable mention.
Theodore Baur, New York City.	.....	.....do .....	.....do	Do.
George E. Bissel, New York City.	.....	.....do .....	.....do	Do.
Karl Bitter	.....	.....do	See class 66.	Silver.
Henry Bonnard, New York City.	29	Bronze, castings in bronze and other metals.	Floor, 20 by 5 feet; wall, 20 by 15 feet.	Gold.
J. J. Boyle, Philadelphia, Pa.	.....	Bronzes	With Henry Bonnard & Co.	Honorable mention.
Julia M. Bracken, Chicago, Ill.	.....	.....do .....	.....do .....	.....
F. H. Frolick, New York City.	.....	.....do .....	.....do	Silver.
Jean Antoine Houdon	.....	.....do .....	.....do .....	.....
H. Lender, New York City.	.....	.....do .....	.....do	Honorable mention.
Charles Lopez, New York City.	.....	.....do .....	.....do .....	.....
G. Moretti, New York City.	.....	.....do .....	.....do	Bronze.
F. Remington, New Rochelle, N. Y.	.....	.....do .....	.....do	Silver.
F. W. Sandberg, Oak Park, Chicago.	.....	Works of art in gold and silver.	See class 94.....	Do.
George H. Storck, New York City.	.....	Bronzes	H. Bonnard Co.....	.....
Mrs. Maria Longworth Storer, United States legation, Madrid.	42	.....do	Floor, 4 by 4 feet; wall, 5 by 4 feet.	Gold.
Tiffany & Co., New York City.	.....	Works of art in bronzes and iron.	See class 95.....	Silver.
Tiffany Glass and Decorating Co., New York City.	.....	Tablets and bronzes....	See class 67	Gold.

Location, description of exhibits, and awards received—Continued.

CLASS 97—Continued.

Name and address.	Number of space on plan.	Description of exhibit.	Size and space.	Medal awarded.
R. Toberentz, New York City.		Bronzes	H. Bonnard Co	
J. A. Ward, New York City.		.....do .....	.....do	
Walter Winana, New York City.	23	.....do	Floor, 10 by 5 feet; wall, 10 by 10 feet.	Silver.
E. Wuertz, New York City.		.....do	H. Bonnard Co	

CLASS 98.

Bissell Carpet Sweeper Co., Grand Rapids, Mich.	21	Carpet sweepers	Floor, 13 feet 6 inches by 10 feet; wall, 10 by 13 feet.	Gold.
George Barnard & Co., New York City.		Leather goods	See class 100	
Brunswick - Balke - Collender Co., New York and Chicago.	7	Articles in ivory	See class 69	
Gorham Manufacturing Co., New York City.		Leather goods with gold and silver mountings.	See class 94	Grand prix.
S. E. Howard's Son & Co., Boston, Mass.	138	Razor strops	Wall, 4 by 6 feet	Silver.
A. J. Jordan, St. Louis, Mo.		.....do	See class 93	
Los Angeles Art Leather Co., Los Angeles, Cal.	139	Fancy leather goods	Wall, 2 feet 6 inches by 6 feet 2 inches.	Do.
H. Tibbe & Son, St. Louis, Mo.	73	Cornecob pipes	Floor, 8 by 8 feet; wall, 16 feet by 13 inches.	Honorable mention.
Tiffany & Co., New York City.		Fine leather goods	See class 95	Grand prix.
Young & Robinson, Frederick, Md.	63	Brush-making machines	Floor, 10 by 12 feet	Silver.
Grossman & Gerlach, St. Augustine, Fla.	69	Fancy leather goods	Floor, 4 by 8 feet; wall, 8 by 13 feet.	Bronze.

CLASS 99.

American Wringer Co., New York City.	20	Clothes wringers	Floor, 15 by 15 feet; wall, 30 by 13 feet.	Silver.
Arawani Mills, Middletown, Conn.	16 and 91	Hammocks	Floor, 48 by 10 feet; wall, 70 by 13 feet.	Do.
New Department Trunk Co., Boston, Mass.	81	Patent trunks	Floor, 10 by 10 feet; wall, 30 by 13 feet.	Bronze.
Weston Paper and Manufacturing Co., Dayton, Ohio.		Combined chair and hammock.	See class 69	Honorable mention.

CLASS 100.

George Barnard & Co., New York City.		Sporting goods	Henry Bonnard Bronze Co.	
Crawford, McGregor & Canby, Dayton, Ohio.	140	Golf clubs	Wall, 6 by 5 feet	Bronze.
Peck & Snyder, New York City.		Ice and roller skates for polo, hockey, etc.	With A. G. Spalding & Bros.	
A. G. Spalding & Bros., New York City.	22	Implements used in athletic sports.	Floor, 20 by 32 feet; wall, 84 by 13 feet.	Grand prix.
Spaulding Manufacturing Co., Chicago, Ill.		Sporting goods in wood.	With A. G. Spalding & Bros.	
United States Playing Card Co., Cincinnati, Ohio.		Games	See Class 92	Silver.
Wright & Ditson, Boston, Mass.		Lawn tennis supplies	With A. G. Spalding & Bros.	

Collaborators.

CLASS 66.

Names of collaborators.	Exhibitor.	Award.
Charles Schwendler.....	John Klee	Bronze.
Charles Krug	do.....	Do.
S. A. Perino	Beil & Mauch.....	Do.
Suin	Carl Bitter	Do.

CLASS 67.

Alice Gouvey.....	Tiffany Glass and Decorating Co.....	Silver.
Agnes F. Northrop.....	do.....	Do.
Arthur J. Nash	do.....	Do.
Harry Hopps	California.....	Do.
Frederic Stymetz.....	J. and R. Lamb	Do.
J. Brewer.....	California.....	Bronze.

CLASS 72.

A. R. Valentien	Rookwood Pottery Co	Gold.
W. H. Grueby	Grueby Faience.....	Do.
G. P. Henebrick	do.....	Silver.
Stanley G. Burt	Rookwood Pottery Co	Do.
Parker C. McIlhiney	Tiffany Glass and Decorating Co.....	Bronze.
Mrs. Edward Livingston Humphrey ..	Atlan Ceramic Art Club	Honorable mention.

CLASS 73.

Arthur J. Nash	Tiffany Glass and Decorating Co.....	Silver.
Parker C. McIlhiney.....	do.....	Do.

CLASS 75.

Louis C. Tiffany.....	Tiffany Glass and Decorating Co.....	Honorable mention.
Henry O. Schmidt.....	do.....	Do.

CLASS 92.

W. Whitehouse	Tiffany & Co	Gold.
John Omwake	United States Playing Card Co	Do.
Jos. P. Cleal.....	National Cash Register Co.....	Do.
Tate	Whiting Paper Co	Do.
A. Crusius	United States Playing Card Co	Silver.
Lewis Edson Waterman.....	L. E. Waterman & Co.....	Do.
Louis Rickendorfer	American Lead Pencil Co	Do.
L. J. Fisher	Union Bag and Paper Co	Do.
W. D. Field	Pomeroy Bros	Do.
James J. Burns	Tiffany & Co	Do.
A. C. Meisuer	Weston Paper and Manufacturing Co.....	Do.
Do.....	United States Playing Card Co	Bronze.
Francis E. Brown.....	Caws Pen and Ink Co.....	Do.
Wm. I. Ferris	L. E. Waterman & Co.....	Do.
Samuel Murray	United States Playing Card Co	Honorable mention.
James D. N. Cracken.....	do.....	Do.
John H. Williams.....	do.....	Do.
W. G. James.....	United States Playing Card Co.....	Do.
W. M. Faulder	Caws Pen and Ink Co.....	Do.
Louis Bourn	do.....	Do.
Miss Margaretto Castello	Blair's Fountain Pen Co	Do.
Dennis Sullivan	do.....	Do.
James Bennett	do.....	Do.

CLASS 93.

Paulding Farnham.....	Tiffany & Co	Silver.
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Collaborators—Continued.

CLASS 94.

Names of collaborators.	Exhibitor.	Award.
W. C. Codman	Gorham Manufacturing Co	Gold.
Paulding Farnham	Tiffany & Co	Do.
J. E. Straker	Gorham Manufacturing Co	Do.
F. A. Jordan	do	Do.
Junior Baker	do	Silver.
G. C. Richter	do	Do.
F. A. Heller	do	Do.
J. S. Thoma	Tiffany & Co	Do.
F. Spengler	do	Do.
L. Hannweber	do	Do.
G. Swamby	do	Do.

CLASS 95.

George F. Kunz	Tiffany & Co	Gold.
J. H. Whitehouse	do	Do.
Paulding Farnham	do	Do.
E. T. Donohue	do	Silver.
H. O. Dreyer	do	Do.
T. H. Wright	do	Do.
W. Post	do	Honorable mention.
Louis C. Tiffany	Tiffany Glass and Decorating Co	Silver.
Henry O. Schmidt	do	Bronze.
Mrs. Clara Driscoll	do	Do.
Alice Gouvey	do	Do.

Submitted herewith is the report of the exhibit of Tiffany & Co., New York.

Report of exhibit of Tiffany & Co.

	Pieces.
Diamond jewelry and jewelry set with precious and semiprecious stones ..	168
Miscellaneous	9
Fancy goods	39
Books	16
Minerals	2, 192
Pearls	883
Silverware (single pieces)	306
Silverware (small ware)	2, 559
Total	6, 172
Approximate value	\$700, 000
Number of persons employed in exhibit	8

EXPENSES.

Transportation, etc	\$7, 340. 22
Salaries	6, 770. 63
Traveling	7, 415. 93
Installation	11, 657. 33
Sundries	18, 330. 66
Total	51, 514. 77

Submitted herewith is the report of the Holophane Glass Company, of New York.

This exhibit consisted of the Holophane prismatic light-diffusing globe, an invention to control artificial light such as that of arc lamps,

incandescent electric, incandescent gas, acetylene, or petroleum lamps. The globes are made of crystal glass, and are composed of two sets of prisms or ribbings, each carefully and mathematically calculated for the work they have to do. One set of ribbings runs vertically on the inner surface of the globe, and is designed to diffuse the light—i. e., to destroy the glare; the other set runs horizontally around the outer surface, and is designed to distribute the rays of light where they are the most required. These outer ribbings, combining the principles of reflection and refraction, divert in a downward direction the rays that usually escape upward to effect an increase in actual illumination over that produced by the bare light unassisted by the Holophane globe.

At the Exposition two exhibits of the globes were given, the larger one in the United States section of varied industries, where every effort was made, by means of a specially constructed dark room and an elaborate electrical and gas installation, to demonstrate to the public the various applications of the system, and the smaller one in the United States electrical section. In addition to these exhibits, complete installations were put in the United States publishers' pavilion, the court of honor (United States section, varied industries), on the façade and colonnade inclosing the United States retrospective electrical exhibit, on the arc lamps of the United States national pavilion, and in the exhibits of Messrs. Tiffany & Co., of New York, and other important exhibitors.

The globes were entered in three classes:

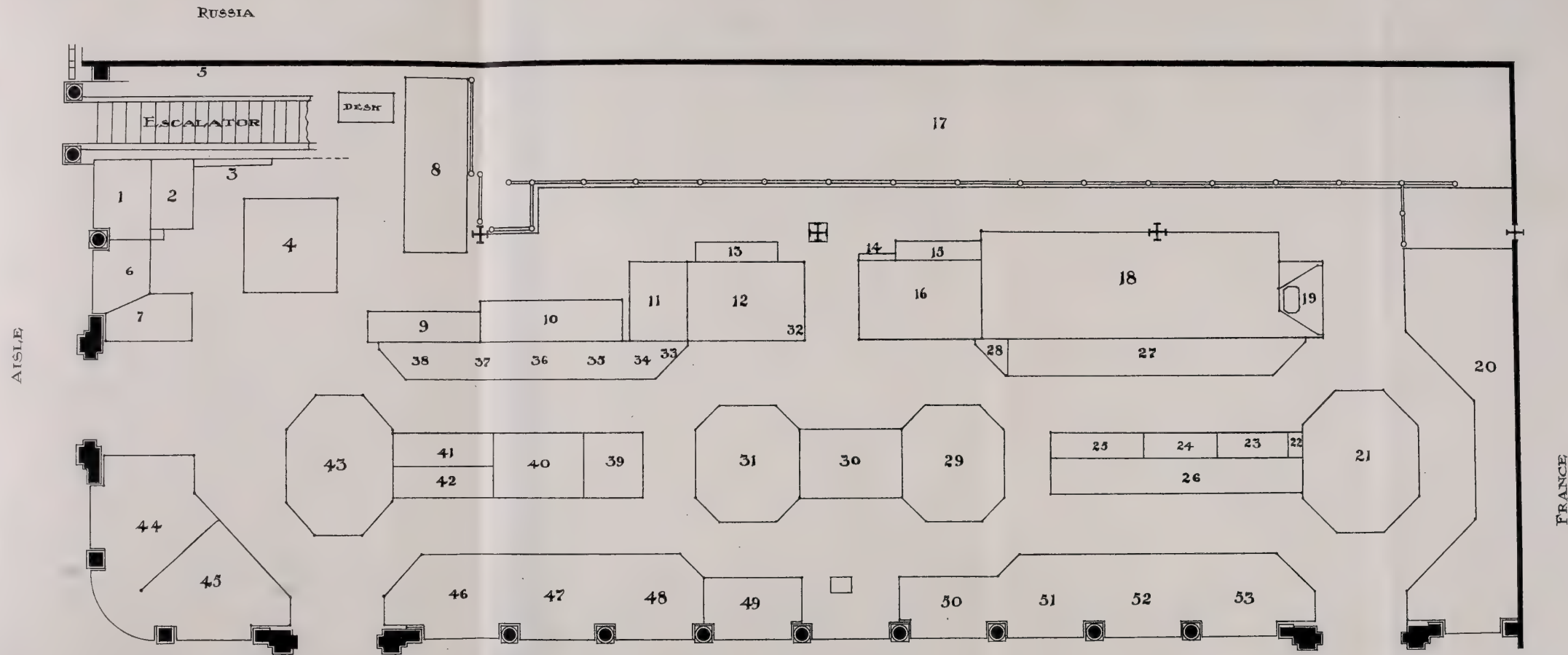
1. Electric lighting appliances.
2. Appliances for lighting by methods other than electrical.
3. Glass making.

They were awarded two gold medals and one silver medal.

REPORT OF THE DEPARTMENT OF TEXTILES.

(GROUP XIII.)

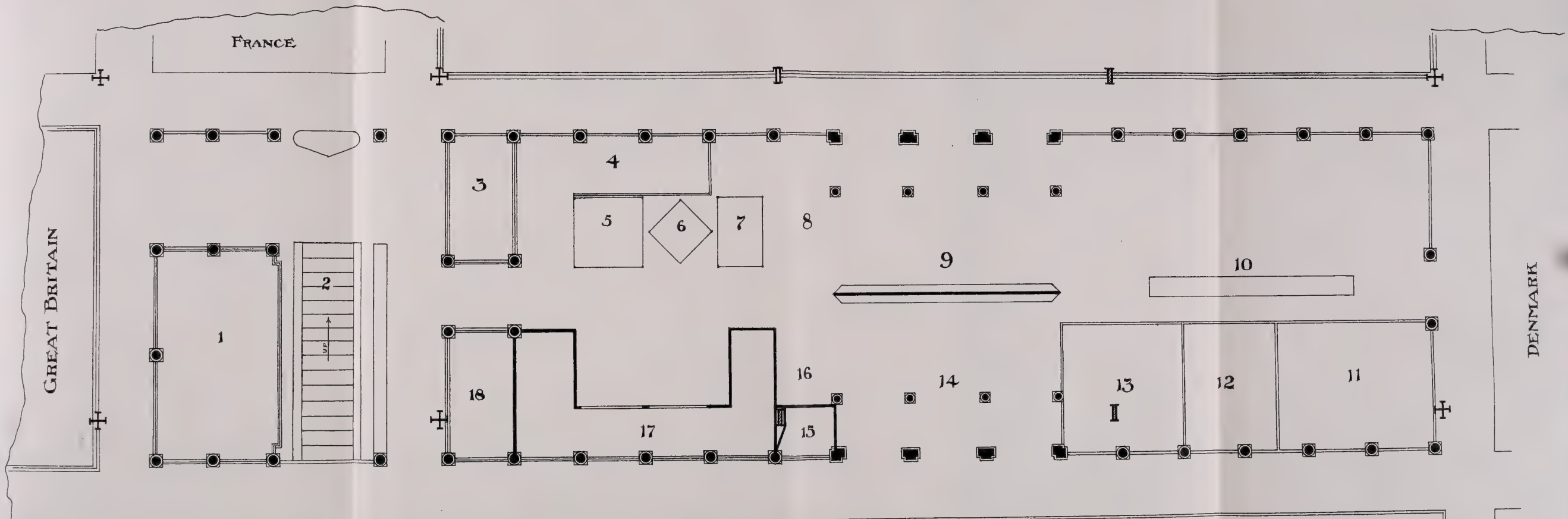
JOHN H. MCGIBBONS, DIRECTOR.



PARIS EXPOSITION OF 1900.
 PLAN OF INSTALLATION OF UNITED STATES SPACE.
 FOR PALACE OF TEXTILES.
 GROUP XIII.

0 5 10
 SCALE OF FEET.

PARIS EXPOSITION OF 1900.
 PLAN OF INSTALLATION OF UNITED STATES SPACE.
 FIRST FLOOR PALACE OF TEXTILES.
 GROUP XIII.



0 2 4 6 8 10 12 14
 SCALE OF FEET.

DEPARTMENT OF TEXTILES.

CONTENTS.

Roster of staff.—Index to illustrations.—Director's report.—Tables: Awards by classes; space areas; number of boxes shipped, their weight, value, etc.
Installation drawings.—Key to drawings.—Classification.—Catalogue of exhibitors.

ROSTER OF STAFF IN THE DEPARTMENT OF TEXTILES.

John H. McGibbons, director.

Mrs. Susan Gale Cooke (in charge of women's exhibits).

Frank W. Moulton, secretary to the director.

KEY AND TITLES TO ILLUSTRATIONS AND VIEWS.

- J-1. General exterior view. Ground floor from southwest. Cotton exhibits in foreground.
- J-2. Exterior view, showing one of the entrances and the embroidery on the façade.
- J-3. Interior view from the west end, showing fur-garment exhibit and cotton goods.
- J-4. Interior view, showing section of woollens and silks in the distance.
- J-5. Silk cases.
- J-6. View of shoe exhibit and "escalator" connecting ground floor and gallery spaces.
- J-7. Sectional view of evening dresses (tailors' display).
- J-8. Interior view, showing section tailors' exhibit.
- J-9. Gallery, showing sewing machines.
- J-10. Shoe machinery in operation.
- J-11. Gallery, showing sewing machines.

KEY TO INSTALLATION, CHAMPS DE MARS.

GROUND FLOOR.

[See plan of installation, group 13.]

- 1. Ladies' fine shoes: Laird, Schober & Co., Philadelphia, Pa.
- 2. Shoes:
 - Faunce & Spinney, Lynn, Mass.
 - Gale Shoe Manufacturing Company, Haverhill, Mass.
- 3. Rugs: Botany Worsted Mills, Passaic, N. J.
- 4. Shoes: L. C. Bliss & Co., Boston, Mass.
- 5. Burlap: W. B. Wiggins's Sons, Orange, N. J.
- 6. Shoes: George E. Keith Company, Campello, Mass.
- 7. Shoes: C. P. Ford & Co., Rochester, N. Y.
- 8. Men's and women's fine shoes: James A. Banister Company, Newark, N. J.
- 9. Men's and women's fine shoes: Hanan & Son, Brooklyn, N. Y.

10. Shoes:

- Wichert & Gardiner, Brooklyn, N. Y.
- Torrey, Curtis & Tirrell, North Weymouth, Mass.
- Milford Shoe Company, Milford, Mass.
- Noyes, Read & Co., Haverhill, Mass.
- Perkins, Linscott & Co., Rochester, N. H.

11. Shoes: George W. Herrick & Co., Lynn, Mass.

12. Silk linings: Cardinel & Becker, Paterson, N. J.

13. Woven lambrequins and couch covers: Botany Worsted Mills, Passaic, N. J.

14. Binding twine: McCormick Harvesting Machine Company, Chicago, Ill.

15. Reclaimed wool: The F. Muhlhauser Company, Cleveland, Ohio.

16. Ladies' worsted fabrics: Botany Worsted Mills, Passaic, N. J.

17. Shoe machinery in operation:

- United Shoe Machinery Company, Boston, Mass.
- Boston Blacking Company, Boston, Mass.
- Flagg Manufacturing Company, Boston, Mass.
- Globe Buffer Company, Boston, Mass.
- O. A. Miller, Brockton, Mass.
- Naumkeag Buffing Machine Association, Beverly, Mass.
- Union Twin Edge Setter Company, Boston, Mass.

18. Looms: Crompton & Knowles Loom Works, Worcester, Mass.

Silk weaving: Anderson Bros., Paterson, N. J.

19. Fashion patterns: The John J. Mitchel Company, New York.

20. Tailor-made garments: Merchant Tailors' National Exchange of the United States of America, New York City.

21. Fur garments; Revillon Freres, New York.

22. Stiffening fabrics: Joseph Hirsch Sons, New York.

23. Cottons: Pelzer Manufacturing Company, Pelzer, S. C.

24. Flannels: Ballard vale Mills, Ballardvale, Mass.

25. Worsteds for men's wear: Standish Worsted Company, Plymouth, Mass.

26. Worsted for men's wear: Hockanum Company, Rockville, Conn.

27. Worsted for men's wear: Peacedale Manufacturing Company, Peacedale, R. I.

28. Braids: Castle Braid Company, Brooklyn, N. Y.

29. Cravat silks: Empire Silk Works, Paterson, N. J.

30. Dress silks: Liberty Silk Company, New York.

31. Dress silks: Doherty & Wadsworth, Paterson, N. J.

32. Black dress silks: John N. Stearns & Co., New York.

33. Ribbons: Paterson Ribbon Company, Paterson, N. J.

34. Dress silks and ribbons: Pelgram & Meyer, Paterson, N. J.

35. Dress silks: Stearn, Pohly & Herman, New York.

36. Dress silks: Bridgeport Silk Company, Bridgeport, Conn.

37. Ribbons: Johnson, Cowdin & Co., Paterson, N. J.

38. Ribbons: Smith & Kaufman, Paterson, N. J.

39. Spool and silk twist: Richardson Silk Company, Belding, Mich.

40. Embroidered linens: Selected collective exhibit contributed by women.

41. Cottons: Wamsutta Mills, New Bedford, Mass.

42. Lace: North American Indians, Miss Sybil Carter, New York, exhibitor.

43. Fur garments: Asch & Jaeckel, New York.

44. Cotton fabrics: Aberfoyle Manufacturing Company, Chester, Pa.

45. White cotton fabrics: Clarence Whitman & Co., New York.

46-47. Cotton fabrics: Loraine Manufacturing Company, Pawtucket, R. I.

48. White cotton fabrics: Potomska Mills Corporation, New Bedford, Mass.

49-50. Hats: John B. Stetson Company, Philadelphia, Pa.

51-52. Woolen and worsted dress fabrics: Arlington Mills, Lawrence, Mass.

53. Worsted dress fabrics: Botany Worsted Mills, Passaic, N. J.

GALLERY.

1. Hats: Henry H. Roelofs & Co., Philadelphia, Pa.
2. Escalator: Otis Elevator Company, New York.
3. Hosiery and underwear: American Hosiery Company, New Britain, Conn.
4. Photographs of machinery: Troy Laundry Machinery Company, Chicago.
5. Cravats: Louis Auerbach, New York.
6. Dress shields: The Canfield Rubber Company, Bridgeport, Conn.
7. Gloves: Louis Meyers & Sons, New York.
8. Garment drafting machines: McDowell Garment Drafting Machine Company, New York.
- 9-10. Sewing machines: The Singer Manufacturing Company, New York.
11. Buttonhole machine: International Buttonhole Sewing Machine Company, Boston, Mass.
12. Collar and cuff turning and pasting machines: The A. D. Fenwick Machine Company, Boston.
13. Sewing machines:
New Home Sewing Machine Company, New York.
The Standard Sewing Machine Company, Cleveland, Ohio.
14. Sewing machines: White Sewing Machine Company, Cleveland, Ohio.
15. Military caps: The Warnock Uniform Company, New York.
16. Fashion plates: American Fashion Company, New York.
17. Furs and fur garments: Asch & Jaeckel, New York.
18. Shirts: Cluet, Peabody & Co., Troy, N. Y.

CLASSIFICATION.

GROUP XIII.—THREADS AND YARNS, FABRICS, GARMENTS.

CLASS 76.—*Materials and processes for spinning and rope making.*

Machinery and apparatus used in preparing and spinning textile materials. Apparatus used in subsequent operations: Spooling, winding, twisting, throwing. Mechanical finishing of goods. Detached parts of spinning machinery and special machines for their manufacture. Apparatus for sorting, testing, and registering. Apparatus for perfecting. Equipment for making cordage.

CLASS 77.—*Equipment and processes used in the manufacture of textile fabrics.*

Apparatus used in operations preliminary to weaving: Machines for warping, cop winders. Card-preparing machines. Hand and power looms for weaving plain cloths. Looms for weaving brocaded and embroidered fabrics, box looms. Knitting machinery for hosiery. Machinery for making lace and tulle. Machinery for making trimmings.

CLASS 78.—*Equipment and processes used in bleaching, dyeing, printing, and finishing textiles in their various stages.*

Apparatus for singeing, brushing, and shearing textile fabrics. Apparatus for washing in lye, scouring, washing, drying, and moistening various textile materials, whether matted, combed, in thread, or in the web. Apparatus for boiling and straining dyestuffs and stuffs for thickening fabrics. Equipment for engraving in relief or in incised work patterns for printing on textiles. Machines for starching, dyeing, or printing. Apparatus for steaming. Machinery of all kinds for finishing goods: For fulling and for teasing, tenter frames, calenders, machines for glazing, watering, embossing, beetling. Machines for measuring, folding, etc. Appliances

used for dyeing silks, for beating, shaking up, pinning out, lustering, etc. Sweating boxes for thickening, apparatus for spotting, apparatus for bleaching by electricity. Equipment and processes for laundry work. Treating with lye, washing and rinsing, drying, ironing, and finishing. Industry of the dyers and scourers; dry cleaning by benzine and its derivatives; cleaning by wet process; dyeing, pressing. Specimens of textile materials bleached or dyed before spinning. Specimens of threads or yarns of cotton, linen, wool, silk, etc., pure or mixed, bleached, dyed, or mottled. Specimens of textile fabrics bleached, dyed, or printed. Specimens of threads, yarns, or fabrics which have been sized. Specimens of chemical thickening of textile materials before they have been spun or woven.

CLASS 79.—*Equipment and processes used in sewing and making wearing apparel.*

Common implements used in needlework. Machines for cutting cloths, skins, and leathers. Machines for sewing, stitching, hemming, embroidering, etc. Machines for making buttonholes; for sewing gloves; plaited straw for hats, leather, boots and shoes, etc. Tailor's geese and flat irons. Busts and figures for trying on garments. Machines for preparing separate parts of boots and shoes (stamping, molding, etc.). Machines for lasting, pegging, screwing, nailing. Machines for making hats of straw, felt, etc.

CLASS 80.—*Threads and fabrics of cotton.*¹

Cotton prepared and spun. Fabrics of cotton, pure or mixed, plain or figured, unbleached, dyed, or printed. Cotton velvets. Cotton ribbons. Counterpanes.

CLASS 81.—*Threads and fabrics of flax, hemp, etc.—Cordage.*

Thread of flax, hemp, jute, ramie, and other vegetable fibers. Plain and figured canvas. Ticking. Damask linen. Cambrics and lawns. Plain and fancy handkerchiefs. Fabrics of flax or hemp, mixed with cotton or silk. Fabrics of vegetable fibers other than cotton, flax, hemp, jute, or ramie. Cordage: Cables, rope, twine, etc.

CLASS 82.—*Yarns and fabrics of wool.*

Combed wool. Yarn of combed wool. Carded wool. Rovings, unbleached or dyed. Yarn of carded wool. Cloths of combed or carded wool. Cloths for ladies' wear. Dress goods of combed or carded wool, in wool mixed with cotton or silk. Muslins-de-laine, tweeds, merinos. China satins, serges, etc. Fabrics of carded wool, not fully or slightly fully; flannels, tartans, molletons, etc. Knitted stuffs in combed or carded wool. Shawls of wool, pure or mixed. Cashmere shawls. Ribbons and braids of wool, pure or mixed with cotton or flax, silk, or floss silk. Fabrics of hair, pure or mixed. Blankets. Felts of wool or hair for carpets, hats, boots, and shoes, etc.

CLASS 83.—*Silk and fabrics of silk.*

Silk raw, thrown, twisted. Floss silk and silk waste. Threads of floss silk and silk waste. Artificial silks. Fabrics of pure silk, silk floss, or silk waste; fabrics of silk or silk floss mixed with gold, silver, wool, cotton, thread, etc., plain, figured, or brocaded, unbleached, dyed, or printed. Velvets and plushes. Ribbons of silk or silk floss, pure or mixed. Shawls of silk or silk floss, pure or mixed.

CLASS 84.—*Laces, embroideries, and trimmings.*

Laces made by hand: Laces, blond or guipure, wrought on the pillow or with the needle or crochet, made of flax, cotton, silk, wool, gold, silver, or other threads. Laces made by machinery: Tullies, plain or embroidered, imitation lace, blond, and guipure, in thread of every kind. Embroidery made by hand: Embroidery by needle

¹ This class and the three following include threads and yarns unbleached, bleached, or dyed, and fabrics unbleached, bleached, dyed, printed, or sized.



J-1. GENERAL EXTERIOR VIEW, TEXTILE SECTION, GROUND FLOOR FROM SOUTHWEST. COTTON EXHIBITS IN FOREGROUND.



J-2. EXTERIOR VIEW, SHOWING ONE OF THE ENTRANCES AND THE EMBROIDERY ON THE FAÇADE OF TEXTILE SECTION.



J-3. INTERIOR VIEW FROM THE WEST END, SHOWING FUR-GARMENT EXHIBIT AND COTTON GOODS, TEXTILE SECTION.

or crochet with thread of every kind, on all kinds of grounds (fabric, net, tulle, skin, etc.), including needle work upon canvas as well as embroidery applique, or ornamented with gems, pearls, jet, spangles of metal or other material, feathers, shells, etc. Embroidery made by machinery, with the foundation preserved, or with the foundation cut or burned away. Trimmings: Galloons, laces or braids, fringes, tassels, all kinds of applique and ornamental work, hand made or woven, for millinery and garments, ecclesiastical vestments, civil or military uniforms; for furniture, saddlery, carriages, etc.; threads and plates of metal, gold or silver, real or imitation, spangles, chenilles, and all other articles used for trimmings. Church embroidery: Church ornaments and linen, altar cloths, banners, and other objects for religious ceremonies, in fabrics ornamented with lace, embroideries, and trimmings. Curtains with lace, guipure, or embroidery, upon tulle or fabrics, blinds, screens, portieres, lambrequins, and other draperies, ornamented with lace, embroidery, and trimming.

CLASS 85.—*Industries producing wearing apparel for men, women, and children.*

Clothing to measure for men and boys: Ordinary costumes, suits for hunting and riding, leather breeches and similar articles, suits for gymnastic uses and games, uniforms (military and civil); robes and costumes for magistrates, members of the bar, professors, ecclesiastics, etc.; liveries, various costumes for children. Clothing ready made for men and for boys. Clothing to measure for women and girls: Dresses, vests, jackets, cloaks (made by ladies' tailors, dress makers, or cloak makers), riding habits, sporting suits. Clothing ready made for women and girls. Patterns.

CLASS 86.—*Various industries connected with clothing.*

Hats: Hats of felt, of wool, of straw, of silk; caps, trimmings for hats. Artificial flowers for dressing the hair, for dress, and for all other uses. Feathers. Millinery. Hair. Shirts and underclothing for men, women, and children. Hosiery of cotton, wool, silk, and floss silk, etc.; knitted hosiery. Cravats and neckties. Corsets and corset fittings. Elastic goods. Suspenders, garters, belts. Gloves. Boots and shoes for men, women, and children; boots, bootees, shoes, slippers, pumps, overshoes, soles, accessories, etc. Gaiters. Canes, whips, riding whips, sunshades, parasols, umbrellas. Buttons: Buttons of china, metal, cloth and silk, mother-of-pearl and other shell, ivory-nut, horn, bone, papier-maché, etc. Buckles, eyelets. Fans. Hand screens.

CATALOGUE OF EXHIBITORS.

GROUP XIII.—THREADS AND YARNS, FABRICS, GARMENTS.

CLASS 76.—*Materials and processes for spinning and rope making.*

McCormick Harvesting Machine Company, Chicago: Twine balling machine.

CLASS 77.—*Crompton & Knowles Loom Works, Worcester, Mass.: Looms.*

CLASS 78.—*Equipment and processes used in bleaching, dyeing, printing, and finishing textiles in their various stages.*

Troy Laundry Machinery Company, Limited, Chicago, Ill.: Photographs; samples of work done on machinery.

American Wringer Company, Limited, New York: Wringers.

CLASS 79.—*Equipment and processes used in sewing and making wearing apparel.*

American Fashion Company, New York: Fashion plates.

Boston Blacking Company, Boston, Mass.: Blackings, dressings, inks, cement, stains, and wax for boot and shoe manufacture.

Fenwick, A. D., Machine Company, Boston, Mass.: Collar and cuff turning and pasting machine.

Flagg Manufacturing Company, 110 Lincoln street, Boston, Mass.: Julian sole rounder.

Globe Buffer Company, Boston, Mass.: Globe scourer, Webster buffer, Webster cleaner, Columbus finisher, used in making shoes, etc.

Hiebendahl, Miss E., 265 Sixth avenue, New York: Forms for displaying garments. The International Button-Hole Sewing Machine Company, Boston, Mass.: Sewing machines for making buttonholes.

The McDowell Garment Drafting Machine Company, New York: Machines for drafting garments and patterns; system of dress cutting. Fashion journals.

Mitchell, The John J., Company, 103 Fifth avenue, New York City: Fashions for men and women.

Miller, O. A., Brockton, Mass.: Boot and shoe treeing and ironing machine.

Naumkeag Buffing Machine Association, Beverly, Mass.: Naumkeag pneumatic buffer and emery pads, used in making shoes.

New Home Sewing Machine Company, New York: Sewing machines for family use.

The Norwich Nickel and Brass Company, Norwich, Conn.: Stands and hangers for displaying goods.

The Standard Sewing Machine Company, Cleveland, Ohio: Sewing machines.

Schmidt, Gustav, 438 Canal street, New York City: Wax figures.

Singer Manufacturing Company, The, 149 Broadway, New York: Sewing machines for family use and for manufacturing purposes.

Union Twin Edge Setter Company, 110 Lincoln street, Boston: Union twin-edge setter, used in making shoes.

United Shoe Machinery Company, 111 Lincoln street, Boston: Shoe machinery in operation; making Goodyear welt and turn shoes.

White Sewing Machine Company, Cleveland, Ohio: Sewing machines for family use.

CLASS 80.—*Threads and fabrics of cotton.*

Aberfoyle Manufacturing Company, Chester, Pa.: Fabrics in woven colors, mercerized cotton goods, novelties in fancy goods, flannels.

Hirsch (Joseph), Sons, New York City: Cotton linings.

Lorraine Manufacturing Company, Pawtucket, R. I.: Fine cotton fabrics in woven colors.

Pelzer Manufacturing Company, Pelzer, S. C.: Sheetings and drills.

Potomska Mills Corporation, New Bedford, Mass.: Plain and fancy white cotton fabrics.

Wamsutta Mills, New Bedford, Mass.: Fabrics of cotton.

Whitman, Clarence, & Co., 39-41 Leonard street, New York City: Plain and fancy white cotton fabrics.

CLASS 81.—*Threads and fabrics of flax, hemp, etc.—Cordage.*

Aultman, Miller & Co., Akron, Ohio: Binding twine.

Columbia Cordage Company, Auburn, N. Y.: Binding twine and cordage.

Deering Harvester Company, Chicago: Binding twine.

McCormick Harvesting Machine Company, Chicago: Binding twine.

Northwestern Grass Twine Company, St. Paul, Minn.: Binding twine, mats, carpet linings.

W. B. Wiggins' Sons, Orange, N. J.: Burlap.

CLASS 82.—*Yarns and fabrics of wool.*

Arlington Mills, Lawrence, Mass.: Worsted yarns, tops, and dress goods for women and children.

Ballard Vale Mills, Ballardvale, Mass.: Flannels.

Botany Worsted Mills, Passaic, N. J.: Fine woolen and worsted ladies' cloths.

Hockanum Company, Rockville, Conn.: Fine woolen and worsted cloths.

Lorraine Manufacturing Company, Pawtucket, R. I.: Worsted cloths.

Muhlhauser, The F., Company, Cleveland, Ohio: Reclaimed wool.
 New England Company, The, Rockville, Conn.: Woolens, worsteds, and coatings.
 Peace Dale Manufacturing Company, Peacedale, R. I.: Fine worsted and woollen cloths, plaids for shawls, rugs, and capes.
 Springville Manufacturing Company, Rockville, Conn.: Woolens, worsteds, and coatings.
 Standish Worsted Company, Plymouth, Mass.: Fine worsted cloths.

CLASS 83.—*Silk and fabrics of silk.*

Anderson Brothers, Paterson, N. J.: Silk fabrics.
 Bridgeport Silk Company, Bridgeport, Conn.: Dress silks.
 Cardinal & Becker, 25 Greene street, New York, and Paterson, N. J.: Silk linings.
 Doherty & Wadsworth, 138-140 Spring street, Paterson, N. J.: Dress silks.
 Empire Silk Works, Paterson, N. J.: Fancy dress and tie silks.
 Johnson, Cowdin & Co., Paterson, N. J.: Ribbons.
 Liberty Silk Company, 469 Broome street, New York City: Fancy dress silks.
 Paterson Ribbon Company, Paterson, N. J., 85 Green street, New York City: Ribbons.
 Pelgram & Meyer, 113-117 Spring street, New York City: Dress silks and ribbons.
 Richardson Silk Company, Belding, Mich.: Sewing and embroidery silk.
 Smith & Kaufman, Paterson, N. J.: Ribbons.
 Stearns, John N., & Co., 68 Greene street, New York City: Black dress silk.
 Stern, Pohly & Herman, New York: Dress silks.

CLASS 84.—*Laces, embroideries, and trimmings.*

Adams, Fanny R., 302 Adelphi street, Brooklyn, N. Y.: Embroidered linen.
 Brady, Miss Florence H., 607 Macon street, Brooklyn, N. Y.: Embroidered linen.
 Castle Braid Company, Brooklyn, N. Y.: Braids.
 Carter, Miss Sybil, New York City: Indian handmade lace.
 Decorative Art Society of Baltimore, Md.: Embroidered linen.
 Emerson, Mrs. Harriet O., Brookline, Mass.: Embroidered linen.
 Foster, Mrs. A. W., 201 West One hundred and seventeenth street, New York City: Embroidered linen.
 Gotshall, Mrs. Adelaide R., New York: Embroidered linen.
 Gilchrist, Miss: Embroidered linen.
 Havens, Mrs. J. H., 107 Greene avenue, Brooklyn, N. Y.: Embroidered linen.
 Jaros, Mrs. J. N., New York: Lace tablecloth.
 McKane, Mrs. H. W., Plainfield, N. J.: Embroidered linen.
 Mingle, Mrs. J. C., 122 West Eighth street, Erie, Pa.: Embroidered linen.
 Nichols, Miss E. B., 312 West Twenty-second street, New York: Embroidered linen.
 Nolan, Miss H. Jennings, 189 Madison avenue, Albany, N. Y.: Embroidered linen.
 Obery, Mrs. Christine M., Portland, Oreg.: Embroidered linen.
 Taft, Joseph H., 41 East Twentieth street, New York City: Embroidery and applique curtains.
 Taylor, Mrs. E. Coxhead, 505 Sixth avenue, New York City: Embroidered linen.
 Waring, Mrs. C. E. Scott, Saratoga Springs, N. Y.: Embroidered linen.
 Wilson, Mrs. Lilian Barton, 728 Marcy avenue, Brooklyn, N. Y.: Embroidered linen.

CLASS 85.—*Industries producing wearing apparel for men, women, and children.*

Asch & Jaeckel, New York City: Manufactured furs and skins.
 Merchant Tailors' National Exchange of the United States of America: Clothing to measure for men and women. Contributors:
 Twyeffort, E., 381 Fifth avenue, New York, hunting suit.
 Weiss, Jules C., & Co., 23 West Twenty-third street, New York, full dress suit.
 White, Howard & Co., Madison avenue, New York, garments.

Merchant Tailors' National Exchange, etc. Contributors—Continued.

Dostal, A. R., Olive street and Broadway, St. Louis, Mo., garments.

Glasscoe & Co., 52 West Thirtieth street, New York, lady's gown.

Grady, M. E., Company, 109 Main street, Rochester, N. Y., garments.

McCarthy, M. H., 120 Dearborn street, Chicago, flannel suit.

Matthews, Albert, Champlain Building, Chicago, garments.

Merwin, B. R., 425 Fifth avenue, New York, garments.

Messenger & Jones, 388 Washington street, Boston, golf suit.

Schaub Brothers, Pioneer Press Building, St. Paul, Minn., automobile suit.

Muller, J. G., 240 Fifth avenue, New York, lady's hunting suit.

Nelson, Alfred, Company, Limited, 261 Fifth avenue, New York, shooting jacket, etc.

Schmidt, H. A., Seventh and Olive streets, St. Louis, Mo., frock suit.

Somers, Frank D., South Park, Boston, Mass., garments.

Patterson, John, & Co., 2 West Thirty-third street, New York, liveries.

Ryley, Rupert A., 256 Fifth avenue, New York, garments.

Schaub Brothers, 80 Monroe street, Chicago, garments.

Revillon Freres, New York City: Furs and fur garments.

CLASS 86.—*Various industries connected with clothing.*

American Hosiery Company, New Britain, Conn.: Underwear and hosiery for men, women, and children.

Auerbach, Louis, 836-838 Broadway, New York: Men's fine neckwear.

Banister, James A., Company, Newark, N. J.: Fine boots, shoes, and slippers for men, women, and children.

Bliss, L. C., & Co., 101-113 Summer street, Boston, Mass.; factory, Whitman, Mass.: The "Regal shoe" for men.

Canfield Rubber Company, The, Bridgeport, Conn.: Dress shields.

Cluett, Peabody & Co., Troy, N. Y.: "Monarch" fancy shirts made from 1 bricks produced by Aberfoyle Manufacturing Company, Chester, Pa.

Faunce & Spinney, Lynn, Mass.: Ladies' Goodyear welts, Goodyear turns, and McKay sewed boots and shoes.

Ford, Charles P., & Co., Rochester, N. Y.: Ladies', misses', and children's fine shoes.

Gale Shoe Manufacturing Company, Haverhill, Mass.: Ladies' McKay boots and slippers.

Hanan & Son, Brooklyn N. Y.: Men's and women's fine shoes.

Herrick, G. W., Company, Lynn, Mass.: Ladies', misses', and children's fine shoes.

Keith, George E., Company, Campello, Mass.: Men's fine shoes.

Laird, Schober & Co., Philadelphia, Pa.: Ladies', misses', and children's fine shoes.

Meyers, Louis, & Sons, 552-554 Broadway, New York: Gloves and glove leather.

Milford Shoe Company, Milford, Mass.: Men's machine-sewed and Goodyear welt shoes.

Noyes, Read & Co., Haverhill, Mass.: Ladies' McKay sewed and turned boots and shoes.

Perkins, Linscott & Co., Rochester, N. H.: Men's sewed and Goodyear welt shoes.

Roelofs, Henry H., & Co., Philadelphia, Pa.: Soft and stiff fine fur felt hats for men and women.

Stetson, John B., Company, Philadelphia, Pa.: Men's soft and stiff fine fur felt hats, ladies' fine fur felt hats; silk and cassimere dress hats.

Torrey, Curtis & Tirrell, North Weymouth, Mass.: Men's fine shoes,

Wichert & Gardiner, Brooklyn, N. Y.: Ladies' turned and Goodyear welt boots and shoes.

The Warnock Uniform Company, 19 and 21 west Thirty-first street, New York City: Uniform caps.



J-4. INTERIOR VIEW OF TEXTILE SECTION, SHOWING SECTION OF WOOLENS AND SILKS IN THE DISTANCE.



J-5. SILK CASES, TEXTILE SECTION.



J-6. VIEW OF SHOE EXHIBIT AND "ESCALATOR" CONNECTING GROUND FLOOR AND GALLERY SPACES, TEXTILE SECTION.

REPORT OF THE DIRECTOR OF THE DEPARTMENT OF TEXTILES.

Hon. FERDINAND W. PECK,

*Commissioner-General for the United States
to the Paris Exposition of 1900.*

DEAR SIR: In accordance with your instructions I beg to herewith submit the following brief account of the work of the department of textiles, as carried on under my direction.

Respectfully,

JOHN H. MCGIBBONS.

Ninety-six manufacturers of textiles, wearing apparel, and machinery pertaining thereto were persuaded to exhibit in the United States textile section. For these ninety-six exhibitors ninety-six awards were secured, as follows: Fourteen grand prizes, twenty-seven gold medals, eighteen silver medals, twenty bronze medals, fourteen diplomas of honorable mention with three exhibitors placed hors concours on account of membership in the juries. Practically a different line of manufacture was represented by each exhibitor, and the awards obtained were therefore for separate and distinct products.

The displays were about equally divided between the ground floor and the gallery, the latter being easily accessible from the ground floor by an American escalator, the first moving stairway constructed.

Cotton, woolen, and silk fabrics and wearing apparel, including tailor-made garments, furs, hats, boots, and shoes, were installed on the ground floor in long, deep, highly polished mahogany show cases, with large plate glass on all sides, and no partitions dividing the exhibits. The accompanying diagram shows by their arrangement the desire to secure harmony, variety, and attractiveness, at the same time utilizing every inch of space possible for exhibits.

Next to the partition separating us from Russia was installed the operating exhibit of shoe machinery, with which 20 American operators turned out 100 pairs of shoes daily. Across the aisle, as shown on the plan, silk looms operated.

In the gallery were sewing machines, men's and women's haberdashery and underwear, hats and furs, and miscellaneous exhibits. Both spaces, the one on the gallery and the one on the ground floor, were surrounded by façades. The façades on the ground floor cost \$5,310,

and were covered with hand and machine embroidered work, made in colors on a background of green that cost \$3,000. This embroidery on the façade was intended to typify the textile industry.

All the aisles on the main floor and in the gallery were covered with a heavy green carpet, the color harmonizing with the mahogany cases and green façade on the main floor, and with the white façade in the gallery.

The entire installation, below and above, was made collective and given a national character. The individuality of the exhibits, however, was preserved throughout in the showcases by arranging the exhibits so as to blend and harmonize with those adjoining.

The only applications received for space in the textile section as a result of the general circular of inquiry sent out during the first months of the work were from three sewing-machine companies, the boot and shoe machinery manufacturers, a cotton goods manufacturer, and one hat manufacturer.

The indifference of textile manufacturers toward exhibiting was most pronounced, as the industries embraced in this department largely form the manufacturing strength of the great European countries, and to seek trade in Europe in this line was considered like carrying coals to Newcastle. Consequently it appeared almost impossible to divert attention from filling orders at home, at a time of the greatest business prosperity, to preparing an exhibit from which no benefit could result. Embarrassment was also caused by the fact, which appeared on reflection, that if the cooperation of manufacturers was received in all lines of the proposed display, the amount of space to be distributed would not permit of accommodating them all; for after deducting $33\frac{1}{3}$ per cent for necessary aisles there would remain a total space of 6,116 square feet, the equivalent of 60 by 100 feet.

Nevertheless, the necessary and desired manufacturers were influenced and the greatest-good-to-the-greatest-number plan was carried and in the following manner: A plan of installing exhibit cases, in accordance with the above drawing, was made and a design and the material for the cases decided upon. Bids were secured for their construction—Hayden & Co., Rochester, N. Y., presenting the lowest. The kinds of goods wanted in the different lines were assigned to the different show cases, and the cost of displaying each exhibit, including the construction and removal of the show case, was computed. The amount for each exhibit was submitted to manufacturers of the highest reputation, and an appeal made to them to exhibit.

The results obtained are shown in the awards received. That the manufacturers were gratified is evident from the letters received expressing their appreciation of the services rendered and extending their thanks. An itemized statement of the cost to the manufacturer is attached hereto. Not including the operating expenses of the

exhibit, the total cost to exhibitors, including freight, amounted approximately to \$40,000. The amount was minimized and reduced at least 75 per cent by letting contracts to one party, as the lowest bidder, for all constructions and materials, and by saving them the cost of having representatives to install the cases and exhibits and to explain the merits of the goods to the visitors and juries.

At the close of the Exposition the show cases were sold to the Buffalo Exposition, and the money received, though only 10 per cent of the amount paid for them, was apportioned among exhibitors.

All goods were returned in excellent shape without any losses, and many of the manufacturers, encouraged by their success at Paris, are now preparing to exhibit on a large scale at Buffalo.

The courteous consideration shown us by the French officials and by the French and foreign jurors is hereby acknowledged. To the American jurors the greatest praise is due for their efforts, and especial mention and emphasis is given to the valuable services rendered in this connection by Mr. Franklin Allen, secretary of the Silk Association of America; Mr. H. A. Flurscheim, Paris representative of Stern Brothers, New York, and Mr. James S. Griffin, and the assistant commissioner-general, B. D. Woodward, who served as juror on cottons.

A few brief observations follow as to the general character of the exhibits and the awards in this section. Reference to the illustrations of this report will further serve in giving an idea of the manner in which the goods were installed. Technical and detailed reports made by the jurors on exhibits, not only in the American but also in the foreign sections, are found in Volume III.

With the valuable assistance of Henry C. Kittredge, editor of the *Textile World*, Boston, and for a time assistant director in this department, fifteen cotton and woolen manufacturers accepted propositions to exhibit. The awards for the six cotton exhibits were three grand prizes and three gold medals. These included fancy woven goods of every variety for dresses and shirts from the mills of the Lorraine and the Aberfoyle manufacturing companies, plain and fancy white goods from Clarence Whitman & Co. and the Potomska Mills, and sheetings and drills from the Wamsutta Mills and the Pelzer Manufacturing Company. The inquiries for these goods indicated a great foreign interest in them and a high probability that the exhibits would secure a large amount of business for the manufacturers. Six gold and three silver medals were awarded to the nine woolen-goods exhibits, which included woolen and worsted fabrics of all kinds for both men and women's wear. The Hockanum Association, the Peacedale Manufacturing Company, and the Standish Worsted Company exhibited plain and fancy worsteds, cheviots, and serges for men's wear, and the Arlington Mills, the Botany Worsted Mills, and

the Lorraine Manufacturing Company exhibited plain and fancy wools and worsteds for women's wear. The Peacedale Manufacturing Company also displayed some woolen plaids of superior quality for shawls, steamer rugs, and golf capes. The Arlington Mills, in addition to their exhibit of cloths, made a display of their manufacture of "tops," which is a new industry in the United States, developed by this company. The exhibit of the Botany Worsted Mills included henriettas, serges, batistes, cloths, vigoureux, and flannels, and in addition a large display of woven rugs, curtains, and couch and pillow covers in oriental designs, the quality and colors of which produced excellent imitations of the original oriental manufacture. The Ballard Vale Mills exhibited their manufactures of fine white flannel.

SILKS.

The silk manufacturers refused to participate in the Exposition, even to the extent of sending a few samples of their product, until a letter was sent to the secretary of the Silk Association of America advising him that it was the purpose of the commission to demonstrate at the Exposition the progress made in the United States in the last few years in silk manufacture, and that unless the silk manufacturers contributed to make an exhibit the commission would find it advisable to secure the goods necessary from dry-goods houses, by purchase or otherwise. The result was that twelve of the best producers of silk fabrics, representing nearly all the different lines, contributed to the undertaking. To their complete surprise and gratification twelve awards for their exhibits were secured, including one grand prize on sewing silk, four gold medals, one silver medal, four bronze medals, and two honorable mentions.

In view of the fact that most of the cotton, silk, and woolen goods were taken from stock in trade, there is every reason to be more than highly satisfied with the results.

SEWING MACHINES.

Sewing machines, for which the United States is justly famous, were well represented. Their location, however, of necessity, in the gallery, did not obtain for them as many visitors as were expected, because the bridge effect of the galleries seemed to convince the public that they saw from the ground floor all there was in the gallery. Two grand prizes and one gold medal were obtained for these exhibits.

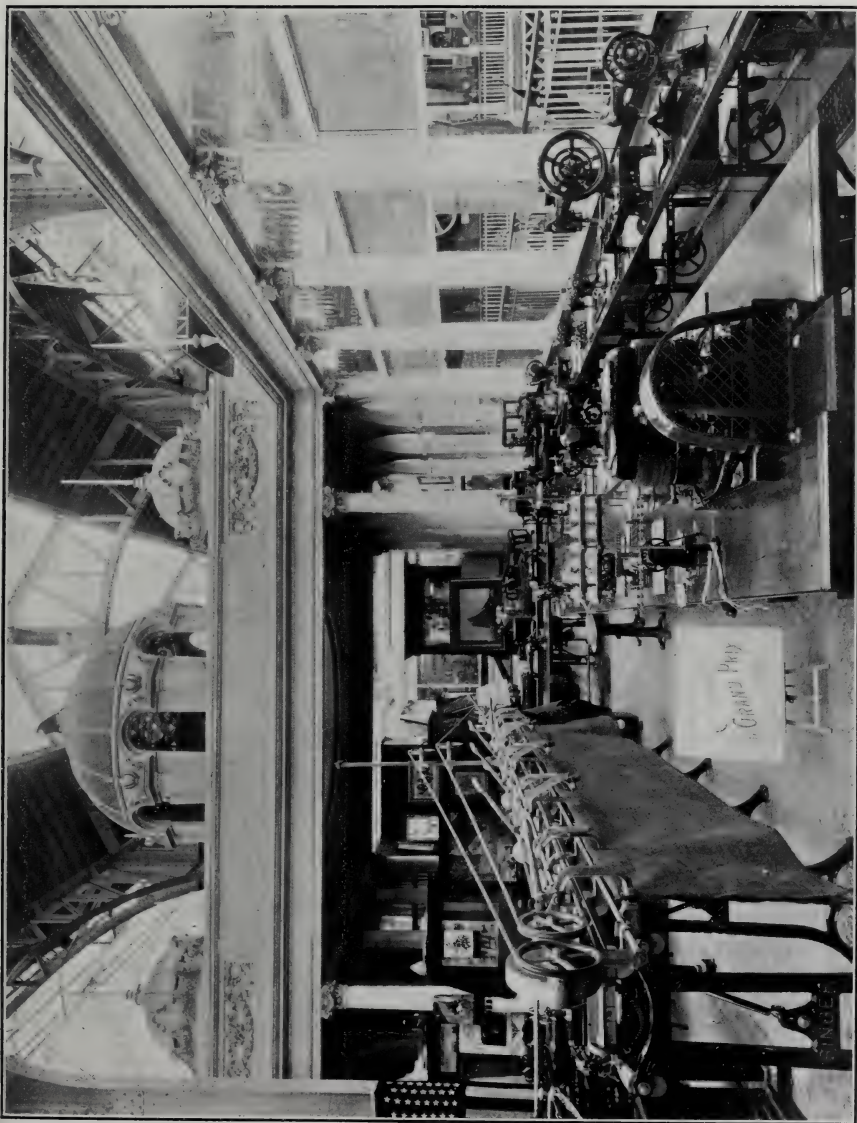
The Singer Manufacturing Company showed an almost limitless variety of sewing machines for manufacturing purposes of all kinds, in addition to their machines for family use. Many of them were new inventions of an ingenious character, performing almost incredible operations, an automatic machine for sewing carpet being among the number.



J-7. SECTIONAL VIEW OF EVENING DRESSES (TAILORS' DISPLAY), TEXTILE SECTION.



J-8. INTERIOR VIEW, SHOWING SECTION TAILORS' EXHIBIT, TEXTILE DEPARTMENT.



J-9. GALLERY, SHOWING SEWING MACHINES, DEPARTMENT OF TEXTILES.

SHOE MACHINERY.

The United Shoe Machinery Company and six associate manufacturers of shoe machinery made a complete operative exhibit, showing the manufacture of shoes from the upper to the finished polished article. As is always the case with moving or operative exhibits, this one was most attractive and instructive, the aisle in front of the exhibit being crowded whenever there were visitors in the Exposition. If circumstances had permitted this installation on the main axis aisle of the Exposition more people would have seen it.

SHOES.

The shoes displayed were typically American and creditable to the country, although little extra attention was given to their preparation. In view of the apparent great possibilities that existed for increasing their foreign trade, the desire of shoe manufacturers to exhibit was not as great as was expected. Perhaps this was due to the general prosperity existing at home. Those who did exhibit were rewarded by excellent returns from a commercial standpoint, and, with four grand prizes, four gold medals, and six silver medals, an award for each exhibitor.

HATS.

America's supremacy in the manufacture of hats was shown. Every style and shape, including women's felt hats, were exhibited, and the jury awarded a grand prize each to The John B. Stetson Company and Henry H. Roelofs & Co., both of Philadelphia.

Gold medals were also obtained for the displays of underwear, gloves, cravats, shirts, etc.

TAILOR-MADE GARMENTS AND FUR GARMENTS.

The exhibit of the Merchant Tailors' National Exchange of the United States of America and the fur-garment exhibits from the houses of Asch & Jaeckel and Revillon Freres proved especially attractive. They were about the only exhibits of this nature outside the French sections that seemed to appeal to the public.

The garments of the furriers were expensive and made up in advanced styles from models for the following season. American wax figures were employed in their installation and the exhibits were given an attractive appearance. Asch & Jaeckel were awarded a grand prize for their fur garments and a grand prize for their furs. Revillon Freres were hors concours because a member of their firm was a juror.

The merchant tailors were granted a gold medal, which was the highest award given tailoring work. This exhibit was composed of 21 garments, contributed by nearly as many of our best tailors in the

large cities of the country. Nearly all varieties of men's and women's wear were shown. Riding habits were displayed on mounted figures, while other figures placed in natural positions, holding the bridle reins of the horses, or at the horses' sides in the attitude of receiving or watching the riders, displayed the outfits of the groom, the hunter, the business man's suit, and the cutaway. A painting formed the back ground of this group and gave the appearance of a halt at iron gates of a country home. Adjoining this group were figures representing afternoon strollers, both men and women, while next these were the figures of those in evening dress. Back of both groups were large plate-glass mirrors, which added to the effect of the display and showed the back of the garment as well as the front. The figures carrying the evening suits and gowns were grouped as if in a drawing room, and they were admired for the taste shown in their designs and for the superb richness of the materials employed. That the United States should make such an exhibit in Paris did not seem so extraordinary after the installation was seen.

EMBROIDERED LINEN.

Seventeen women contributed to the exhibit of embroidered linen. On the solicitation of Mrs. Susan Gale Cooke, who was an assistant in this department, women from all parts of the United States sent embroidered work to New York to compete for the selection for the Exposition. Several hundred pieces were received, and a committee of three, with Mrs. Candace Wheeler as chairman, selected about fifty out of the number. These were sent to the Exposition, exhibited, and returned without cost or the loss of an article to the contributors. For the seventeen exhibitors seventeen awards were received.

LACE.

The lace made by North American Indians and exhibited by Miss Sybil Carter, under the patronage of Mrs. Bayard Cutting, Mrs. Levi P. Morton, and others, was interesting to the public, to the connoisseurs, and the jury, which awarded it a gold medal.

SILK LOOMS.

The silk looms installed and operated by Anderson Brothers, Paterson, N. J., but manufactured by the Crompton & Knowles Loom Works, were awarded a gold medal. An award would have been granted Anderson Brothers for the silk fabric manufactured on the looms if they had not, through a misunderstanding, informed the jury that they were the exhibitors of the looms, which were afterwards examined by another jury.

MACHINE FOR WINDING TWINE.

The twine-balling machine, for making balls of twine, exhibited by the McCormick Harvesting Machine Company, was the only machine of this nature exhibited, and received the only award granted. Its automatic operation, the manner in which it manipulated and wound the ball, and its speed impressed the jury.

BINDING TWINE AND CORDAGE.

The binding-twine and cordage exhibits were made by five manufacturers, who were awarded two gold medals and three bronze medals. All these exhibits were located in the agricultural section, except that of the McCormick Harvesting Machine Company, which was displayed, in accordance with the classification, in this section. The enormous output of the mills of these companies and the quality of their manufacture seemed almost incredible to the jury, the McCormick Harvesting Company alone having manufactured 16,000 tons of binding twine in the year 1899. The best of pure manila twine shown, made from manila hemp, had a minimum tensile strength of 45 kilograms and a length of 475 meters per kilogram; the second grade manila, composed of a mixture of manila and sisal fiber, had a minimum strength of 45 kilograms and a minimum length of 406 meters per kilogram; the pure sisal twine, made of sisal hemp, averaged 45 kilograms minimum strength and 340 meters per kilogram minimum length.

Everything in the section was made of American materials by American workmen. It is needless to comment upon the delays and difficulties experienced in getting the goods and show cases to Paris, and afterwards in getting them to the space on their arrival in Paris.

The official visit of M. Loubet, the President of the French Republic, with his staff and the officials at the Exposition, was attended with due ceremony. The section as a whole and the individual exhibits were favorably commented upon by them.

Statement showing cost to manufacturers for show cases and expenses in connection with exhibiting.

Aberfoyle Manufacturing Company.....	\$1,608.07
American Continental Shoe Company (covering expense of seven shoe companies)	1,061.56
American Hosiery Company	638.13
Arlington Mills	1,402.01
Asch & Jaeckel	2,500.00
Louis Auerbach	387.02
Hallard Vale Mills	377.75
James A. Bannister Company	238.20
L. C. Bliss & Co	1,000.00
Botany Worsted Mills	1,325.00

Canfield Rubber Company.....	\$263.46
Miss Sybil Carter.....	351.74
Cluet, Peabody & Co.....	575.24
C. P. Ford & Co.....	590.00
Hanan & Son.....	490.87
George W. Herrick.....	400.00
Hockanum Company.....	860.00
George E. Keith & Co.....	610.24
Laird, Schober & Co.....	630.85
Lorraine Manufacturing Company.....	1,600.00
Merchant Tailors' National Exchange.....	2,500.00
Peacedale Manufacturing Company.....	638.71
Pelzer Manufacturing Company.....	420.00
Potomska Mills.....	851.00
Roelofs & Co.....	2,700.00
Stetson & Co.....	1,510.00
Standish Manufacturing Company.....	290.00
Wamsutta Mills.....	500.00
Clarence Whitman & Co.....	1,605.00

Table of awards granted, Group XIII, textile section, by classes.

Class.	Hors concours.	Grand prize.	Gold medal.	Silver medal.	Bronze medal.	Honorable mention.	Number of awards.	Number of ex- hibitors.
76.....				1			1	1
77.....			1				1	1
78.....					1		1	1
79.....	2	3	1	1	3	1	11	11
80.....		3	4	1	1		9	9
81.....			2		4		6	6
82.....			6	3	1		10	10
83.....		1	4	1	4	2	12	12
84.....			1	2	6	11	20	20
85.....	1	1	1				3	3
86.....		6	7	9			22	22
	3	14	27	18	20	14	96	96

Table showing goods for the textile section shipped to Paris and returned, the number of cases and their weights, cubic-feet measurement, and value.

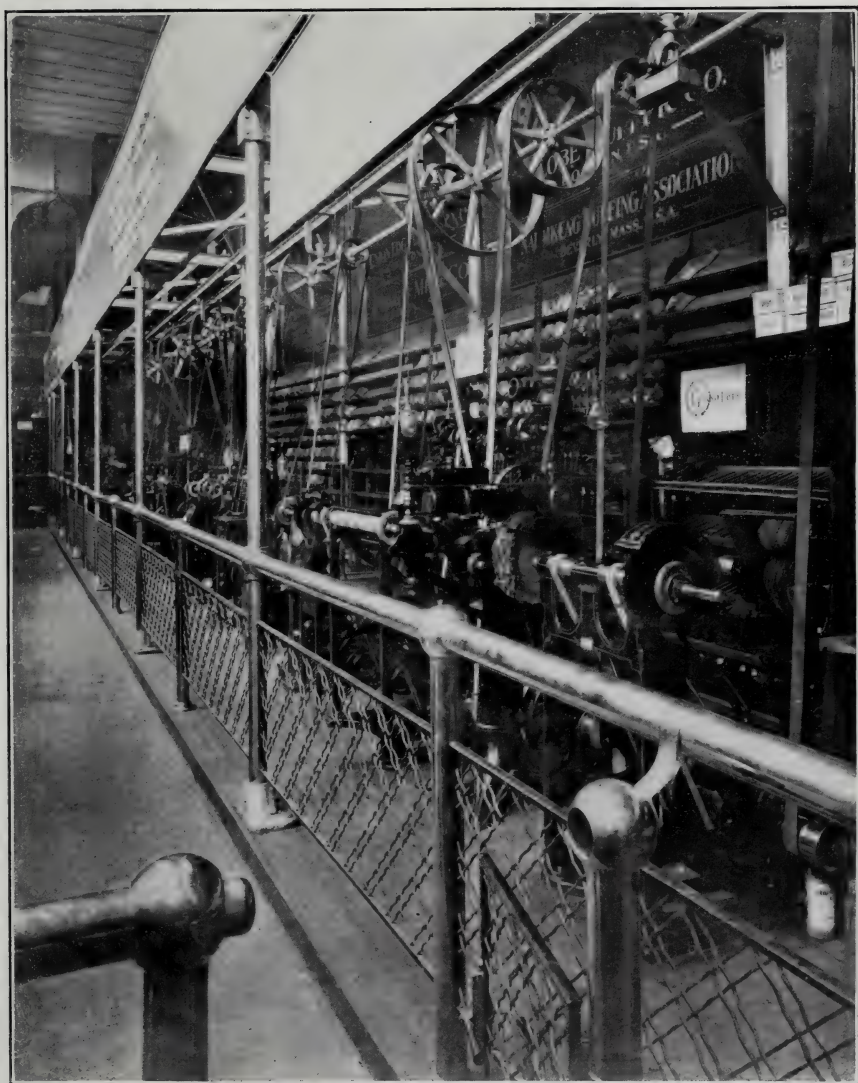
	Cases.	Weight.	Cubic feet.	Value.
Goods forwarded.....	700	400,000	750	\$300,000
Goods forwarded by U. S. cruiser Prairie.....	100	85,000	125	30,000
Goods forwarded by commercial lines.....	600	315,000	625	270,000
Goods returned.....	450	250,000	475	250,000
Goods returned by Prairie.....	70	65,000	150	20,000
Goods returned by commercial lines.....	380	185,000	325	230,000

Table showing the total square feet of space in the textile section and how it was utilized.

Group.	Total area, including obligatory aisles.	Net exhibit space.	Circula- tion.	Net floor space covered.
XIII.—Textiles:	<i>Square feet.</i>	<i>Square feet.</i>	<i>Square feet.</i>	<i>Square feet.</i>
Ground floor.....	7,898	6,384	1,900	4,484
First floor.....	4,602	3,132	1,000	2,132
Total.....	12,500	9,516	2,900	6,616



SILK AND COTTON EXHIBIT UNDER FAÇADE, TEXTILE SECTION, GROUP XIII, CHAMP DE MARS.



J-10. SHOE MACHINERY IN OPERATION, DEPARTMENT OF TEXTILES.



J-11. GALLERY, SHOWING SEWING MACHINES, DEPARTMENT OF TEXTILES.

GENERAL CATALOGUE

OF

EXHIBITS AND EXHIBITORS,

ARRANGED ALPHABETICALLY BY GROUPS AND CLASSES.

GENERAL CATALOGUE OF EXHIBITS AND EXHIBITORS BY GROUPS AND CLASSES.

GROUP I.—EDUCATION AND INSTRUCTION.

CLASS 1.—*Education of the child—Elementary Instruction—Instruction of adults.*

- American Book Company, New York City: School publications and text-books.
American School Board Journal, Milwaukee, Wis.: Publication.
American School Furniture Company, New York City: School furniture and appliances.
Bardeen, C. W., Syracuse, New York: School publications and text-books.
Blow, Susan E., Cazenovia, New York: Monograph on the kindergarten.
Board of education, Albany, N. Y.: Photographs, reports, pupils' work.
Board of education, Binghamton, N. Y.: Photographs.
Board of education, Boston, Mass.: Photographs, reports, blanks, pupils' work.
Board of education, California State, Sacramento, Cal.: Photographs, reports, laws, blanks.
Board of education, Chicago: Examination of teachers; courses of study, pupils' work, reports, blanks. Child study, physical measurements. Photographs.
Board of education, Cleveland, Ohio: Photographs, reports, blanks, drawing work.
Board of education, Denver, Colo.: Photographs, reports, blanks, pupils' work.
Board of education, Erie, Pa.: Photographs, reports, blanks.
Board of education, Galesburg, Ill.: Report. History of the High School.
Board of education, Kansas City, Mo.: Reports and photographs.
Board of education, Los Angeles, Cal.: Photographs, reports, blanks, pupils' work.
Board of education, Malden, Mass.: Public school work.
Board of education, Massachusetts State, Boston, Mass.: Annual report; school reports of the 353 towns and cities of the State; monographs, catalogues, office blanks.
Board of education, Middletown, N. Y.: Photograph of buildings, pupils' work.
Board of education, Minneapolis, Minn.: Photographs, reports.
Board of education, Nashua, N. H.: Photographs, pupils' work.
Board of education, Newark, N. J.: Photographs, reports, blanks, pupils' work.
Board of education, New Bedford, Mass.: Public-school work.
Board of education, New York City: Organization, management, equipment of public school system, results.
Board of education, Omaha, Nebr.: Photographs, reports, blanks used, pupils' work.
Board of education, Paterson, N. J.: Photographs, reports, blanks, pupils' work.
Board of education, Pensacola, Fla.: Photographs, reports, blanks, pupils' work.
Board of education, Peoria, Ill.: Photographs.
Board of education, Rhode Island State, Providence, R. I.: Photographs, reports, laws, blanks.
Board of education, Rochester, N. Y.: Photographs of kindergartens.
Board of education, Saratoga Springs, N. Y.: Drawing work.
Board of education, Somerville, Mass.: Public school work.

- Board of education, Springfield, Mass.: Public school work.
- Board of education, St. Louis, Mo.: Photographs, pupils' work.
- Board of education, Tacoma, Wash.: Photographs, reports, blanks.
- Board of education, Terre Haute, Ind.: Historical sketch; administrative forms; photographs.
- Board of education, Toledo, Ohio: Photographs, reports, blanks, pupils' work.
- Board of education, Utica, N. Y.: Photographs, reports, blanks, pupils' work.
- Board of education, Washington, D. C.: Photographs, pupils' work.
- Board of education, West Springfield, Mass.: Public school work; photographs, reports, blanks.
- Board of education, Whitehall, N. Y.: Manual training work of high school pupils.
- Board of education, Wilkesbarre, Pa.: Portfolio of drawings.
- Board of education, Worcester, Mass.: Public school work.
- Board of school directors, Harrisburg, Pa.: Photograph of buildings; reports, regulations.
- Bureau of Education, U. S. A., Washington, D. C.: Charts, statistics, publications.
- Central School Supply House, Atlas Block, Chicago: Relief map of the United States.
- Denton Brothers, Wellesley, Mass.: Natural history collections for school use.
- Department of Education, United States Commission to Paris: Administrative and organization blanks of public school systems. Nineteen monographs on education in the United States. Graphic charts illustrating educational development in the United States. Photographs, publications, and results obtained.
- Department of public instruction, Honolulu, Hawaii: Pupils' work; Government reports Kamehameha Institute, Hawaii pupils' work.
- Draper, Andrew Sloan, University of Illinois, Champaign, Ill.: Monograph on educational organization and administration.
- Educational Review, New York City: Publications.
- Erie, Harrisburg, and Wilkesbarre pupils' work, reports (collective work).
- Harris, William T., Commissioner of Education, Washington, D. C.: Monograph on elementary education.
- Hinsdale, B. A., University of Michigan, Ann Arbor, Mich.: Monograph on training of teachers.
- Howell, Edwin E., Washington, D. C.: Relief maps of the continents and adjacent ocean bottoms.
- Inland Publishing Company, Terre Haute, Ind.: School and college text-books.
- Journal of Education, Boston, Mass.: Publications.
- Milton Bradley Company, Springfield, Mass.: Materials and appliances for kindergartens.
- Morrison, Gilbert B., Kansas City, Mo.: Monograph on school architecture and hygiene.
- Mott, John M., 6106 Woodlawn avenue, Chicago, Ill.: Phonetic alphabet with spellings in five languages.
- National German-American Teachers' Seminary, Milwaukee, Wis.: Herbarium of the flora of the United States.
- New York Education, Albany, N. Y.: Publication.
- New York Teachers' Magazine: Publication.
- Normal Instructor, Dansville, N. Y.: Publication—The Normal Instructor.
- Normal school system, State of New York: Reports, photographs, charts, blanks.
- Normal school system, State of Massachusetts: Reports, photographs, charts, blanks.
- Normal school, Westchester, Pa.: Photographs, pupils' work.
- Pennsylvania School Journal, Harrisburg, Pa.: Publications.
- Perry Pictures Company, Malden, Mass.: School charts and publications.
- Popular Educator, Boston, Mass.
- Prang Educational Company, New York City: Educational publications.

- Press Pedagogique: School Bulletin, New York Education, Pennsylvania School Journal, Western School Journal.
- Public instruction, Colorado State department of, Denver, Colo.: Photographs, reports, laws, blanks.
- Public instruction, Illinois State department of, Springfield, Ill.: Photographs, reports, laws, blanks.
- Public instruction, Indiana State department of, Indianapolis, Ind.: Photographs, reports, laws, blanks.
- Public instruction, Iowa State department of, Des Moines, Iowa: Photographs, reports, laws, blanks.
- Public instruction, Maryland State department of, Baltimore, Md.: Photographs of buildings, reports.
- Public instruction, Montana State department of, Helena, Mont.: Pamphlets.
- Public instruction, Nebraska State department of, Lincoln, Nebr.: Reports, laws, blanks.
- Public instruction, New York State department of, Albany, N. Y.: Reports, blanks, publications.
- Public instruction, North Carolina State department of, Raleigh, N. C.: Reports, laws, blanks.
- Public instruction, Pennsylvania State department of: Reports, blanks.
- Public instruction, South Dakota State department of, Pierre, S. Dak.: Photographs, reports, laws, blanks.
- Public instruction, Wisconsin State department of, Madison, Wis.: Photographs, reports, laws, blanks.
- Public School Journal, Illinois.
- School Bulletin, Syracuse, N. Y.: Publications.
- School Journal, New York: Publications.
- School and Home Education.
- Silver, Burdett & Co., Boston and New York: Educational publications.
- Stern's School of Languages, New York City: Method of instruction in French and German.
- Training school for teachers, New York City.
- Western School Journal, Topeka, Kans.: Publication—Western School Journal.
- Wilson, Mrs. L. L. W., normal school, Philadelphia: Reports, photographs, charts, blanks.

CLASS 2.—*Secondary education.*

SECONDARY EDUCATION OF BOYS; CLASSICAL EDUCATION; MODERN EDUCATION; EDUCATION OF GIRLS.

- Albany Female Academy, Albany, N. Y.: Maps, photographs (girls' education).
- American Book Company, New York: Educational publications.
- American Museum Natural History, New York: Pamphlets, lantern slides.
- American School Board Journal, Milwaukee, Wis.: Publications.
- American School Furniture Company, New York: School furniture and appliances.
- Bardeen, C. W., Syracuse, N. Y.: Educational publications.
- Board of education, Albany, N. Y.: Photographs, reports, blanks, pupils' work.
- Board of education, Boston, Mass.: Photographs, reports, blanks, pupils' work.
- Board of education, California State, Sacramento, Cal.: Photographs, reports, blanks.
- Board of education, Chicago: Courses of study and pupils' work in high schools.
- Photographs of buildings; laboratories, gymnasiums; physical measurements.
- Board of education, Cleveland, Ohio: Photographs, reports, blanks, drawing work.
- Board of education, Denver, Colo.: Photographs, reports, blanks, pupils' work.
- Board of education, Malden, Mass.: Public school work.
- Board of education, Massachusetts State, Boston, Mass.: Annual reports; school reports of the 353 towns and cities of the State; monographs, catalogues. Office blanks.

- Board of education, Minneapolis, Minn.: Photographs, reports (public schools).
- Board of education, Newark, N. J.: Photographs, reports, blanks, pupils' work.
- Board of education, New York City: Organization, management, equipment of public school system; results obtained.
- Board of education, Omaha, Nebr.: Photographs, reports, blanks used, pupils' work.
- Board of education, Somerville, Mass.: Public school work.
- Board of education, Springfield, Mass.: Public school work.
- Board of education, St. Louis, Mo.: Photographs, pupils' work.
- Board of education, Vermont State, Montpelier, Vt.: Photographs, reports, laws, blanks.
- Board of education, Washington, D. C.: Photographs, pupils' work.
- Board of education, Worcester, Mass.: Public school work.
- Brown, Elmer Ellsworth, Berkeley, Cal.: Monograph on secondary education.
- Denton Brothers, Wellesley, Mass.: Natural history collections for schools.
- Department of education, United States Commission to Paris: Collective exhibit of photographs, publications, and results obtained in public school work. Administration blanks, etc.
- Educational Review, New York: Publications.
- Foote Mineral Company, Philadelphia, Pa.: Collections of minerals for schools and colleges.
- Hinsdale, B. A., University of Michigan, Ann Arbor, Mich.: Monograph on training of teachers.
- Journal of Education, The, Boston, Mass.: Publications.
- Morrison, Gilbert B., Kansas City, Mo.: School architecture and hygiene.
- Perry Pictures Company, Malden, Mass.: Publications and school charts.
- Prang Educational Company, New York City: Educational publications.
- Public Instruction, Colorado State Department of, Denver, Colo.: Photographs, reports, laws, blanks.
- Public Instruction, New York State Department of, New York: Statistics, courses of instruction for secondary schools.
- School Journal, New York: Publications.
- School Review, Chicago: Publications.
- Silver, Burdett & Co., Boston and New York: Educational publications. Secondary education.
- Society, Beck Literary, Albany Academy, Albany, N. Y.: Statistics, etc.
- Thiry, J. H., Long Island City, N. Y.: Statistics and reports relating to school savings banks.
- Troy Female Seminary, Troy, N. Y.: "Emma Willard and her pupils."
- Velasco School of Languages, The, 283 Schermerhorn street, Brooklyn, N. Y.: Portfolios of written work.
- Washington University, St. Louis, Mo.: Manual training department; clay models; manual training work.

CLASS 3.—*Higher education—Scientific institutions.*

- Adams, Herbert B., Baltimore, Md.: Monograph on summer schools and university extension.
- American Book Company, New York: Publications for superior education.
- American Library Association, Albany, N. Y.: Statistics, publications, library appliances.
- American Numismatic and Archæological Society, New York: Coins, pamphlets, and data concerning coinage.
- American School Furniture Company, New York City: School furniture and appliances.
- Association of Collegiate Alumnae, 183 Delaware avenue, Buffalo, N. Y.: Charts, photographs, methods specially applied to superior education of women.

- Bardeen, C. W., Syracuse, N. Y.: Publications and educational books.
- Brown Herald, Providence, R. I.: Publication.
- Bryn Mawr College, Bryn Mawr, Pa.: Photographs, publications, charts, special work.
- Cattell, James McKeen, Columbia University, New York: Monograph on scientific societies and associations.
- Cercle Français de Harvard University, Cambridge, Mass., by James Hazen Hyde: Photographs, programmes, publications, charts of methods of the society, statistics.
- Columbia Spectator, New York City: Publication.
- Columbia University, New York City: University publications, library, education, psychology, and law.
- Congressional Library, Washington, D. C.: Photographs, publications, charts.
- Cornell University, Ithaca, N. Y.: Charts, publications, photographs of appliances of the university and of engineering and pedagogical sections.
- Dana Natural History Society, Albany, N. Y.: Publications.
- Department of education, United States Commission to Paris: Collective exhibit of material illustrating phases of college work. Series of graphic charts illustrative of educational development in the United States. Student publications in American colleges. Theological schools. Typical college games and sports.
- Educational Review, New York: Publication.
- Foote Mineral Company, Philadelphia, Pa.: Collections of minerals for schools and colleges.
- Harvard Crimson, Cambridge, Mass.: Publication.
- Harvard University, astronomical observatory, Cambridge, Mass.: Charts, astronomical objects, illuminated photographs.
- Harvard University, Cambridge, Mass.: Photographs, charts, maps, publications.
- Peabody Museum, glass models of flowers.
- Hement, J. C., 108 Fulton street, New York City: Photographs of sports and games in American colleges.
- Illini, The, Champaign, Ill.: Publication.
- Johns Hopkins University, Baltimore, Md.: Scientific publications; maps of solar spectrum; work in biology, pathology, geology, and climatology.
- Kunz, George F., New York: "Folklore" publication.
- Lehigh University, South Bethlehem, Pa.: Photographs, publications, statistical charts.
- MacFarlane, Alexander, South Bethlehem, Pa.: Treatise upon geometry in space.
- Massachusetts Institute of Technology, Boston, Mass.: Charts, statistics, publications, photographs, programme, and work.
- Mendenhall, T. C., Worcester, Mass.: Monograph on scientific technical and engineering education.
- Mount Holyoke College, Mount Holyoke, Mass.: Map, photographs.
- Michelson, A. A., Chicago, Ill.: Physical apparatus.
- Oberlin College, Oberlin, Ohio: Photographs, statistical charts.
- Parsons, James Russell, University of the State of New York, Albany, N. Y.: Monograph on professional education.
- Perry, Edward Delavan, Columbia University, New York: Monograph on the American university.
- Prang Educational Company, New York City: Educational publications.
- Princetonian, Princeton, N. J.: Publication.
- New York University, School of Pedagogy, New York City: Charts, plans, and investigations in the pedagogic department.
- Rowlands, H. A., Baltimore, Md.: Diffraction gratings.
- Rutgers College, New Brunswick, N. J.: Photographs, charts, statistics.
- Silver, Burdett & Co., New York: School publications and text-books.
- Smith, Harlan J., New York: An archæological study of Lytton, British Columbia.
- Stevens Institute of Technology, Hoboken, N. J.: Photographs, publications.

- Teacher's College, Columbia University, New York City: Organization, equipment, results obtained.
- Thomas, M. Carey, Bryn Mawr College, Bryn Mawr, Pa.: Monograph on education of women.
- University of California, Berkeley, Cal.: Architects' plans of buildings and grounds.
- University of Chicago, Chicago: Physics, apparatus, astronomy, photographs, history, sociology, charts, University extension division, charts, publications.
- University of Colorado, Boulder, Colo.: Photographs, charts, statistics.
- University of Iowa, Iowa City, Iowa: Photographs of buildings, special publications.
- University of Pennsylvania, Philadelphia, Pa.: Charts, graphics, and photographs illustrative of the departments of archæology, chemistry, and medicine.
- University of Princeton, Princeton, N. J.: Photographs, publications, statistical charts.
- University of the State of New York, Albany, N. Y.: Methods of education by means reading and traveling libraries.
- University of the State of New York, Museum Department, Albany, N. Y.: Publications pertaining to paleontology.
- University of Wisconsin, Madison, Wis.: Collection of charts, graphics, photographs, special methods and investigations.
- Vassar College, Poughkeepsie, N. Y.: Special works in history and sociology.
- Wake, C. S., Field Columbian Museum, Chicago: Publication: Philosophical diagrams.
- Wellesley College, Wellesley, Mass.: Work of the college in philosophy and literature.
- West, Andrew Fleming, Princeton University, Princeton, N. J.: Monograph on the American College.
- Yale University, New Haven, Conn.: Exhibit from Sheffield Scientific School, exhibit relating to paleontology.

CLASS 4.—*Special education in fine arts.*

INSTITUTIONS FOR TEACHING DRAWING AND MUSIC.

- American Book Company, New York: School publications and text-books.
- Art Students' League of New York, 215 West Fifty-seventh street, New York City: Students' work.
- Bailey, Henry, Boston, Mass.: Monograph on the history of art education in Massachusetts.
- Clarke, Isaac Edwards, Department of Education, Washington, D. C.: Monograph on artistic and industrial education.
- Chicago Art Institute, Chicago: Charts, statistics, publications, illustrative works of students.
- Normal Art School, Boston, Mass.: Illustrative work of school.
- Prang Educational Company, New York: Educational publications.
- Silver, Burdett & Co., New York: School publications and text-books.

CLASS 5.—*Special education in agriculture.*

[Higher or scientific education in agriculture, veterinary science, and forestry; instruction in which theory takes precedence over practice; instruction in which practice takes precedence over theory; practical instruction in apprentice schools; special schools for technical instruction in industries related to farming; special agricultural education in normal schools for the training of teachers in colleges, in schools, and in primary schools; instruction by consulting or visiting professors; practical instruction.]

- American Book Company, New York City: School publications and text-books.
- Baron de Hirsch Agricultural School, Woodbine, N. J.
- Dabney, Charles W., University of Tennessee, Knoxville, Tenn.: Monograph on agricultural education.

Department of Education, United States Commission to Paris: Collective exhibit of schools of agriculture and experiment stations.

CLASS 6.—*Special industrial and commercial education.*

- Agricultural College and Mechanics' Institute, Greensboro, N. C.: Publications, photographs, pupils' work.
- Albany Business College, Albany, N. Y.: Students' work, statistics, publications.
- American Book Company, New York City: School publications and text-books.
- Berea College, Berea, Ky.: Publications, photographs, pupils' work.
- Board of Education, Boston, Mass.: Evening industrial drawing schools.
- Bureau of Education, U. S. A., Washington, D. C.: Charts, statistics, publications.
- Bureau of Indian Affairs, U. S. A., Washington, D. C.: Collective exhibit of Indian education.
- Carlisle Indian School, Carlisle, Pa.: Photographs, charts, statistics, pupils' work.
- Central Tennessee College, Nashville, Tenn.: Publications, photographs, pupils' work.
- Claflin University, Orangeburg, S. C.: Publications, photographs, pupils' work.
- Colored Industrial Institute, Pine Bluff, Ark.: Literary work, map and free hand drawing, herbarium.
- Department of Public Instruction, State of New York: Nineteen monographs on education in the United States, edited by Dr. Nicholas Murray Butler.
- Hailmann, William N., Dayton, Ohio: Monograph on education of the Indian.
- Haines Industrial Institute, Augusta, Ga.: Sewing done by young colored girls.
- Hampton Normal and Agricultural Institute, Hampton, Va.: Photographs, charts, statistics, pupils' work.
- Heald's Business College, San Francisco, Cal.: Students' work.
- Howard University, Washington, D. C.: Charts and photographs illustrating methods of teaching among the colored people.
- James, Edmund J., University of Chicago, Chicago: Monograph on commercial education.
- Massachusetts Institute of Technology, Boston, Mass.: Work in shops and laboratories.
- Metropolitan Business College, Chicago: Students' work, photographs.
- New York Trade School, East Sixty-seventh street, New York City: Photographs, charts, statistics, pupils' work.
- Packard's Business College, New York City: Students' work, statistics, publications.
- Philadelphia Business College, Philadelphia, Pa.: Students' work, statistics, publications.
- Roger Williams University, Nashville, Tenn.: Photographs and catalogue.
- Soulé Commercial College and Literary Institute, New Orleans, La.: Students' work.
- Spencerian Commercial School, 422 Superior street, Cleveland, Ohio: Students' work.
- Tuskegee Normal and Industrial Institute, Tuskegee, Ala.: Exhibit of twenty-eight industries connected with the school.
- University of Atlanta, Ga.: Charts showing the development of people of color in the United States.
- University, Fisk, Nashville, Tenn.: Written work by colored students, photographs.
- Washington, Booker T., Tuskegee Institute, Tuskegee, Ala.: Monograph on education of the negro.

GROUP II.—WORKS OF ART.

CLASS 7.—*Paintings, Cartoons, Illustrations.*

Abbey, Edwin Austin, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts. Fairford, Gloucestershire, England.

1. Hamlet.
2. The Deserted Village (illustration).
3. The Good-Natured Man (illustration).

- Abbot, Katherine G., born at Zanesville, Ohio. Pupil of H. Siddons Mowbray, Wm. M. Chase, Merson, Geoffroy, and Delance. Paris, France.
4. Anxiety.
- Alexander, John W., born at Pittsburg, Pa. Pupil of Royal Academy, Munich, and Frank Duveneck. Paris.
5. The Mother.
 6. Portrait of Rodin.
 7. Autumn.
- Allen, Thomas, born at St. Louis, Mo. Pupil of Royal Academy, Dusseldorf. Boston.
8. On Grassmere Meadows.
- Anderson, A. A., born at New York. Pupil of Bonnat, Cormon, and Collin. New York.
9. Hon. Elihu Root.
- Baer, William J., born at Cincinnati, Ohio. Pupil of Munich Royal Academy. New York.
10. Mrs. Wm. M. C. (miniature).
 11. Friends (miniature).
 12. Sara (miniature).
 13. The Golden Hour (miniature).
 14. Lady in Blue and Pink (miniature).
 15. My First Born (miniature).
- Baker, Martha S., born at Evansville, Ind. Pupil of Art Institute, Chicago. Chicago.
16. Miss Ethel Coe (miniature).
 17. Ideal Head (miniature).
- Barlow, J. Noble, born at Manchester, England. Pupil of Constant, Lefebvre, and Delance. Providence, R. I., and Cornwall, England.
18. One Summer Night.
- Baxter, Martha Wheeler, born in Vermont. Pupil of Mowbray, Kenyon Cox, Carroll Beckwith, F. Vincent, Du Mond. Paris and Windsor, Vt.
19. Portrait of Miss T. (miniature).
- Beaux, Cecilia, born at Philadelphia, Pa. Pupil of Wm. Sartain, the Julien Academy, Chas. Lazar. Philadelphia, Pa.
20. Mother and Daughter.
 21. Mother and Son.
 22. Portrait of Miss Fisher.
- Beckington, Alice, born at St. Charles, Mo. Pupil of Lefebvre, Constant, and Lazar. Scituate, Mass.
23. Portrait (miniature).
 24. Helen (miniature).
- Beckwith, J. Carroll, born at Hannibal, Mo. Pupil of Carolus Duran. New York.
25. Portrait of Mrs. Beckwith.
 26. The Glimpse (illustration).
- Benson, Frank W., born at Salem, Mass. Pupil of Boulanger and Lefebvre. Salem, Mass.
27. Children in the Woods.
 28. The Sisters.
- Bisbing, H. S., born at Philadelphia, Pa. Pupil of J. H. L. de Haas and F. de Vuillefroy. Paris.
29. The Meadow.
 30. Cattle.
- Blakelock, Ralph A., born at New York. New York.
31. Landscape.

- Blum, Robert, born at Cincinnati, Ohio. Pupil of MacMicken School of Design and Academy of Fine Arts, Philadelphia. New York.
32. "The Ameya."
33. The Flower Market at Tokio.
- Bogert, George H., born at New York. Pupil of Puvis de Chavanne and Aimé Morot. New York.
34. Sea and Rain.
- Bohm, Max, born at Cincinnati, Ohio. Pupil of Jean Paul Laurens and Benjamin Constant. Gold medal, 1898. Etaples, France.
35. On the Sea.
- Boskerck, Robert W. van. Born in New Jersey. Pupil of R. O. Gifford and A. H. Wyant, New York.
36. Landscape.
- Breckenridge, Hugh H., born at Leesburg, Va. Pupil of Bouguereau, Farrier, and Doucet. Philadelphia, Pa.
37. Lantern Glow (pastel).
- Bridgman, F. A., born at Tuskegee, Ala. Pupil of Gérôme. Paris.
38. Pharos.
39. The Arab with a Horse.
- Brown, J. G., born at Durham, England. Pupil of Robert Scott Lander, William B. Scott, and Thomas Cummings. New York.
40. Heels Over Head.
- Browne, Charles Francis, born in Massachusetts. Pupil of Boston Art Museum, Philadelphia Academy of Fine Arts, Gérôme. Chicago.
41. Reflections.
- Brush, George de Forrest, born in Tennessee. Pupil of Gérôme. New York.
42. Mother and Child.
43. Mother and Child.
44. The Artist.
- Bunce, W. Gedney, born at Hartford, Conn. Address, Venice.
45. Venice.
- Burbank, E. A., born at Harvard, Ill. Pupil of Emil Carlsen, Felix Regimy, J. F. Goodkins, Paul Navin, and Frederick Fehr. Chicago.
46. Thi-ich-na-pa (Navajo).
- Butler, Howard Russell, born at New York. New York.
47. Clearing.
- Camp, Joseph De, born at Cincinnati, Ohio. Pupil of Frank Duveneek. Boston, Mass.
48. Woman Drying Her Hair.
- Carl, Kate, born in Louisiana. Pupil of Gustave Courtois. Neuilly-sur-Seine, France.
49. The Mirror.
- Carleton, Clifford, New York.
50. The Letter (illustration).
- Champney, Marie, born at Deerfield, Mass. Pupil of Mlle. Schmitt and Mrs. Virginia Reynolds. New York.
51. Portrait of Mrs. H., as Geisha Girl (miniature).
- Chapman, Carlton T., born at New London, Conn. Pupil of Art Students' League, New York, and Julien Academy, Paris. New York.
52. Out of Reckoning; a Narrow Escape (illustration).
53. Constitution and Guerriere.
54. The Oregon in Action.
- Chase, William M., born at Franklin, Ind. Pupil of Wagner and Piloty. New York.
55. Woman with a White Shawl.
56. Landscape.
57. The Big Brass Bowl.

- Christy, Howard Chandler, born in Ohio. Pupil of William M. Chase. New York.
 58. Instead, she buried her face in its folds (illustration).
- Church, F. S., born at Grand Rapids, Mich. Pupil of Walter Shirlaw. New York.
 59. The Sorceress.
- Clark, Walter Appleton, born at Worcester, Mass. Pupil of H. Siddons Mowbray and William M. Chase. New York.
 60. Perfectly content if she looked up now and then (illustration).
 61. Naturally, he was surprised and considerably annoyed (illustration).
 62. Francisca kept the house (illustration).
 63. It was to be an affair of boats (illustration).
- Clark, Walter, born at Brooklyn, N. Y. Pupil of Wilmarth and Art Students' League, New York. New York.
 64. A New England Village.
- Clinedinst, B. West, born at Woodstock, Va. Address, New York.
 65. Marooned (illustration).
- Coffin, William A., born at Allegheny, Pa. Pupil of Leon Bonnat. New York.
 66. Sunrise.
- Coman, Charlotte B., born at Waterville, N. H. Pupil of James R. Brevoort, Harry Thompson, and Emile Vernier. New York.
 67. A Winter Morning (aquarelle).
 68. A Hill of Hazel Bushes (aquarelle).
- Cooper, Emma Lampert, born at Nunda, N. Y. Pupil of Harry Thompson, J. Kever, and William M. Chase. London, England.
 69. The Breadwinners.
- Couse, E. Irving, born at Saginaw, Mich. Pupil of Bougeareau, Fleury. New York.
 70. Along the Quai.
- Cowles, Maud Alice, born at Farmington, Conn. Pupil of Robert Brandegee and Professor Niemeyer. Farmington, Conn.
 71. The meeting on the bridge (illustration).
- Cox, Kenyon, born at Warren, Ohio. Pupil of Gérôme and Carolus Duran. New York.
 72. The Pursuit of the Ideal.
- Cox, Louise, born at San Francisco, Cal. Pupil of National Academy of Design and Art Students' League, New York. New York.
 73. Leonard.
- Crane, Bruce, born at New York. Pupil of A. H. Wyant. New York.
 74. Signs of the Spring.
- Curran, Charles C., born at Hartford, Ky. Pupil of Benjamin Constant and L. Doucet. New York.
 75. The Dew.
 76. The Peris.
- Curtis, Constance, born at Washington, D. C. Pupil of William M. Chase and Robert Reid. New York.
 77. Joan (aquarelle).
- Dannat, William T., born at New York. Pupil of the Munich Academy and Munkácsy. Paris.
 78. Portrait of the Duchess of Mecklenburg.
 79. Portrait of Miss C.
- Darling, W. M., born at Sandusky, Ohio. Pupil of Jean Paul Laurens and Benjamin Constant. Laren, Holland.
 80. Helping the Mother.
- Davis, Charles H., born at Amesbury, Mass. Pupil of Otto Grundmann, Boulanger, and Jules Lefebvre. Chicago, 1893, medal. Boston.
 81. Summer Evening.
 82. Clouds Over Water.

- De Wentworth, Cecilia, born at New York. Pupil of Cabanel.
83. Portrait of Cardinal Ferrata.
- Dearth, Henry Golden, Bristol, R. I. Address, New York.
84. Autumn.
- Dessar, Louis Paul, born at Indianapolis, Ind. Pupil of W. A. Bouguereau and Robert Fleury. New York.
85. Sheep in the Dunes.
86. Evening in Picardy.
- Dickson, M. E., born at St. Louis, Mo. Pupil of Tony Robert, Fleury, and Lefebvre. Paris.
87. Fancy Head.
- Donoho, Ruger G., Church Hill, Miss. Pupil of Boulanger, Lefebvre, Bouguereau, and Fleury. East Hampton, N. Y.
88. Moonlight in Egypt lane.
- Drake, Will H., born at New York. Pupil of Constant and Doucet. New York.
89. The tiger's roar filled the cave (illustration).
- Eakins, Thomas, born at Covington, Ky. Pupil of Gérôme, Bonnat, and Dumont. Philadelphia, Pa.
90. The 'Cello Player.
91. Salutat.
- Eaton, Charles Warren, born at Albany, N. Y. Pupil of National Academy of Design and Art Students' League, New York.
92. The Marsh in Winter (pastel).
93. Spirit of the Twilight (aquarelle).
94. River at Evening.
- Eichelburger, R. H. (deceased).
95. The Wave.
- Ellis, Harvey, born at Rochester, N. Y. Pupil of Edwin White, Rochester, N. Y.
96. Silhouettes (aquarelle).
- Emmet, Lydia Field. Address, New Rochelle, N. Y.
97. Garden Days.
- Enneking, J. J., born at Minster, Ohio. Pupil of Bonnat, Daubigny, and Lear. Boston.
98. Twilight.
- Fisher, Mark, born at Boston, Mass. Widdington, Newport, Essex, England.
99. The Swineherd.
- Foss, Miss Harriot C., born at Middletown, Conn. Pupil of Weir, Stephens, and Courtois. New York.
100. Pink Phlox (pastel).
- Foster, Ben, North Anson, Me. Pupil of Abbott Thayer, Luc Olivier Merson, and Aimé Morot. New York.
101. Lulled by a Murmuring Stream.
- Franzen, August, born at Norrköping, Sweden. Pupil of Dagnan Bouveret. New York.
102. Charity.
103. The House Builders.
- Fromuth, Charles H., born at Philadelphia, Pa. Pupil of Thomas Eakins. Concarneau, France.
104. A Dock Harmony.
105. Dismantled Boats.
- Frost, A. B., Philadelphia, Pa. Address, Convent Station, N. J.
106. What happened (illustration).
107. Somebody blundered (illustration).
- Fuller, Lucia Fairchild, Windsor, Vt.
108. Girl Drying Her Foot (miniature).

Fuller, Lucia Fairchild—Continued.

109. Girl with Hand Glass (miniature).

110. Portrait of a Child (miniature).

Gallagher, Sears, born at Boston, Mass. Pupil of Thomas Juglaris, Jean Paul Laurens, and Benjamin Constant. Boston, Mass.

111. Foggy Weather (aquarelle).

Garrison, Henry H., born at Boston, Mass. Pupil of Bonnefoy. Boston, Mass.

112. A Gray Day.

Garnsey, E. E., born at Holmdel, N. J. Pupil of Cooper Institute, Art Students' League, Maynard and Frances Lathrop. New York.

113. Decorative painting of lunettes and ceiling, rotunda National Pavilion.

Gauley, Robert David, born at Ballylag, Ireland. Pupil of Denman Ross, The Art Museum of Boston, and The Julien Academy. New York.

114. Polly.

Gay, Walter, born at Hingham, Mass. Pupil of Léon Bonnat. Paris.

115. Maternity.

116. The Weavers.

Gibson, Charles Dana, born at Roxbury, Mass. Pupil of Augustus St. Gaudens and Julien Academy. New York.

117. Réjane (illustration).

118. No respector of a widow's grief (illustration).

Gifford, R. Swain, born at Island of Nanshon, Mass. Pupil of Albert Van Beest. New York.

119. Head Waters of Westport River.

Gihon, Albert Dakin, born at Portsmouth, N. H. Pupil of Thomas Eakins, Constant, J. P. Laurens, Gérôme, Aman Jean, Georges Moteley. Paris.

120. Old Mill (Picardy).

Glackens, William, born at Philadelphia, Pa. Pupil Pennsylvania Academy of Fine Arts. New York.

121. In town it's different (illustration).

122. She wheeled about and stamped her foot. "Silence pigs," she screamed (illustration).

Grothjean, Fanny, born at Hamburg, Germany. Pupil of Courtois Girardot, Paul J. Blanc, Pierre Fritel and A. G. Delécluse. New York.

123. The August Moon.

124. The New Moon.

Guerin, Jules, born at St. Louis, Mo. Pupil of Benjamin Constant and Jean Paul Laurens. New York.

125. University Heights, Harlem River (illustration).

Guy, J. Seymour, born at Greenwich, England. Pupil of Ambroise Jérôme and Buttersworth. New York.

126. Rest.

127. Preparing for To-morrow.

Helmick, H., born in Ohio. Pupil of Cabanel. Washington, D. C.

128. On the floor lay Bemim Cozart (illustration).

Hambige, Jay, Simcoe, Canada. Pupil of Art Students' League and William M. Chase. Amityville, N. Y.

129. Studies from Life.

130. Trouble Ahead (illustration).

Harrison, Alexander, born at Philadelphia, Pa. Pupil of Gérôme and Lepage. Paris.

131. Twilight (marine).

132. Mysteries of the Night (marine).

133. Evening in the Sun (landscape).

- Harrison, Birge, born at Philadelphia, Pa. Pupil of Carolus Duran and Cabanel. Plymouth, Mass.
134. Morning off Santa Barbara.
- Hassam, Childe, born at Boston, Mass. Pupil of Boulanger and Lefebvre. New York.
135. Snowy Day in Fifth Avenue.
- Hayden, Charles H., born at Plymouth, Mass. Pupil of Boulanger, Collin, and Lefebvre. Belmont, Mass.
136. A Connecticut Hillside.
- Herter, Albert, born at New York. Pupil of F. Cormon and Jean Paul Laurens. New York.
137. Sorrow (aquarelle).
- Hills, Laura C., born at Newburyport, Mass. Pupil of Helen M. Knowlton, Cowles Art School, and the Art Students' League, New York. Boston, Mass.
138. Laura (miniature).
139. Dorothy (miniature).
140. Portrait of Beatrice Herford (miniature).
141. Portrait of Miss T. (miniature).
141. Study in Pink (miniature).
- Hitchcock, George, born at Providence, R. I. Pupil of Boulanger and Lefebvre. Egmond Hoef, Holland, and Providence, R. I.
143. Magnificat.
144. Vanquished.
- Hitchcock, Lucius W., born at West Williamsfield, Ohio. Pupil of Jules Lefebvre, Benjamin Constant, and Jean Paul Laurens. Buffalo, N. Y.
145. Ready; look pleasant (illustration).
146. The house was in a roaring humor (illustration).
- Holman, Frank, born at Attleboro, Mass. Pupil of Carolus Duran and the Ecole des Beaux Arts. Paris.
147. Portrait of My Mother.
- Homer, Winslow, born at Boston, Mass. Pupil of Frederick Kindel. Scarboro, Me.
148. The Fox Hunt.
149. The Maine Coast.
150. All's Well.
151. Summer Night.
- Houston, Caroline A., born at Brooklyn, N. Y. Pupil of Frank Dumond, Raphael Collin, and Eugene Trasset. Paris.
152. Portrait of Miss C. (miniature).
153. Portrait of Miss M. J. C. (miniature).
- Houston, Frances C., born at Hudson, Mich. Pupil of Lefebvre and Boulanger. Boston, Mass.
154. Portrait.
- Hyde, W. H., born at New York. Pupil of Boulanger, Lefebvre, Doncet, and Alexander Harrison. New York.
155. Portrait.
- Inness, George (deceased), born at Newburg, N. Y. Pupil of Regis Gignoux.
156. Sunny Autumn Day.
157. The Clouded Sun.
158. The Mill Pond.
- Johnson, Eastman, born at Lowell, Me. Pupil of Lentye. New York.
159. Prisoner of State.
- Johnston, J. Humphreys. Address, Paris.
160. Portrait of Artist's Mother.
161. Fortune.
162. Le Mystère de la Nuit.

Jones, H. Bolton, born at Baltimore, Md. Address, New York.

163. November.

Josephi, Isaac A., born at New York. Pupil of Art Students' League, New York, and Leon Bonnat. New York.

164. Portrait (miniature).

165. Portrait (miniature).

166. Portrait (miniature).

Kaelin, C. S., born at Cincinnati, Ohio. Pupil of Cincinnati Art School and Art Students' League, New York. Cincinnati, Ohio.

167. Melting Snows (pastel).

Keller, Arthur I., born at New York. Pupil of Professor Wilmarth and Professor Loeffitz. New York.

168. Allie Connan's first and last duel (illustration).

169. Col. Washington's wedding reception (illustration).

Kendall, Margaret, born at Staten Island, N. Y. Pupil of Weir, Rohlshoven, and Sergeant Kendall. New York.

170. Pastures and Pudding Stones.

Kendall, Sergeant, born at Spuyten Duyvel, N. Y. Pupil of Thomas Eakins, Oliver Merson. New York.

171. "St. Ives, Pray for Me."

172. Cloud's Shadow.

Knight, Louis Aston, born at Paris. Pupil of Lefebvre, Tony Robert Fleury, and Ridgway Knight. Poissy, France.

173. The Riverside Path (aquarelle).

Knight, Ridgway, born at Philadelphia, Pa. Pupil of Glayre and Meissonier. Poissy, France.

174. A July Morning.

Koopman, Augustus, born at Charlotte, N. C. Pupil of Bouguereau and Fleury. Paris and Philadelphia.

175. The Two Forces.

Kost, Frederick W., born at New York. Pupil of National Academy. New York.

176. Old Vanderbilt Dock, New Dorp.

Kronberg, Louis, born in United States. Pupil of Jean Paul Laurens, Benjamin Constant, and Raphael Collin. Boston, Mass.

177. Study from the Nude (pastel).

La Farge, John, born at New York. New York.

178. Girls Making Kava.

179. Mount Tohivea, Society Islands.

Lathrop, Francis, born in Hawaiian Islands. Pupil of Ford Madox, Brown, and Sir Edward Burne Jones. New York.

180. Portrait of the Artist.

Lathrop, W. L., born at Warren, Ill. New York.

181. A Grey Day.

Lee, Homer, born at New York. New York.

182. The Building of a Sky Scraper.

Lewis, Arthur, born at Mobile, Ala. Pupil of George Bridgman and Gérôme. Paris and Mobile, Ala.

183. Portrait of Michel Robinson.

Locke, Caroline T., New York.

184. Purple Rhododendrons.

Lockwood, Wilton, born at Wilton, Conn. Pupil of La Farge. Boston, Mass.

185. The Violinist.

Low, Will H., born at Albany, N. Y. Pupil of Gérôme and Carolus Duran. Bronxville, N. Y.

186. At the Spring.

- McCarter, Henry, born at Morristown, Pa. Pupil of National Academy, New York, and Julien Academy, Paris. New York.
187. The Legends of Mont Saint Michel (illustration).
- MacChesney, Clara, born at San Francisco, Cal. Pupil of William Mowbry, Coutois, and Girardot. New York.
188. Pomegranates (aquarelle).
189. The Old Blind Fiddler (aquarelle).
- MacEwen, Walter, born at Chicago. Pupil of Cormon, Tony Robert Fleury. Paris.
190. Portrait.
191. Sunday in Holland.
192. Pieter Van Wint.
- MacIlhenny, C. M., born at Philadelphia, Pa. Address, Scrub Oak, N. Y.
193. November.
- MacKubin, Florence, born at Florence, Italy. Pupil of Louis Deschamps, Julius Rohlshoven, and Professor Herterrich. Baltimore, Md.
194. Portrait of Mrs. Rockwood Hoar (miniature).
- MacMonnies, Mary F., born at New Haven, Conn. Pupil of Jules Lefebvre, W. A. Bouguereau, and Carolus Duran. Paris, France, and New Haven, Conn.
195. Lilies and Roses.
- Marsh, F. D., born at Chicago. Pupil of La Farge and Beckwith. Paris and Chicago.
196. Portrait.
- Martin, Homer (deceased), born at Albany, N. Y. Pupil of William Hart.
197. Newport Neck.
198. The Adirondacks.
199. Westchester Hills.
- Maurer, A. H., born at New York. Pupil of Edgar M. Ward. Paris.
200. Portrait.
- Maynard, George Willoughby, born at Washington, D. C. Pupil of Academy of Fine Arts, Belgium. New York.
201. In Strange Seas.
- Maynard, Guy, born at Chicago, Ill. Pupil of Art Institute, Chicago. Paris.
202. Portrait.
- Meakin, L. H., born in England. Pupil of Professor Raupp, Cysis, and Loeffts. Cincinnati, Ohio.
203. Eden Park Reservoir.
- Melchers, Gari, born at Detroit, Mich. Pupil of Lefebvre and Boulanger. Paris and Detroit, Mich.
204. The Fencing Master.
205. Portrait.
206. The Sisters.
- Metcalf, Willard L., New York.
207. Summer Twilight.
- Millet, Francis D., born at Mattapoissett, Mass. Pupil of Van Lerins, Royal Academy of Fine Arts, Antwerp. Broadway, Worcester, England.
208. The Expansionist.
209. Unconverted.
- Minor, Robert C., born at New York. Pupil of Van Luppen, Diez, and Boulanger, New York.
210. Moonlight.
- Muhrman, Henry H., born at Cincinnati, Ohio. Pupil of Munich Academy, London.
211. Trees and Pond.
212. Broadstairs.

- Murphy, J. Francis, born at Oswego, N. Y. Address, New York. 1893, medal. New York.
213. Landscape.
214. Under Grey Skies (aquarelle).
- Needham, Charles Austin, born at Buffalo, N. Y. Pupil of August Will and Art Students' League of New York. New York.
215. Park snows.
216. A River Bank (equarelle).
- Nelson, M., Paris and New York.
217. Portrait of a Little Boy (miniature).
- Nettleton, Walter, born at New Haven, Conn. Pupil of Lefebvre and Boulanger, Stockbridge, Mass.
218. Early Snowfall.
- Newman, R. L., born at Richmond, Va. Pupil of Thomas Couture. New York.
219. Christ Stilling the Tempest.
- Newman, W. B., born in Tennessee. Pupil of F. S. Noble, Benjamin Constant, and Jean Paul Laurens. Paris.
220. Reverie.
- Nicholls, Rhoda Holmes, born at Coventry, England. Pupil of Bloomsbury School of Art of London. New York.
221. Search the Scriptures (aquarelle).
- Norton, William E., born at Boston, Mass. Pupil of George Inness, Jacquesson, and Vollon, London, England.
222. Normandy Fish Weir.
- Nourse, Elizabeth, born at Cincinnati, Ohio. Pupil of Boulanger, Lefebvre, Carolus Duran, and Henner. Paris.
223. In the Church at Volendam, Holland.
- Ochtman, Leonard, born at Bonnemaire, Holland. Mianus, Conn.
224. Winter Morning.
225. Autumn Twilight.
- Palmer, Walter L., born at Albany, N. Y. Pupil of F. E. Church, Carolus Duran. Albany, N. Y.
226. The Senator's Birthplace.
227. San Marco, Venice.
- Pape, Eric, New York.
228. Midnight in a Two-cent Lodging House (illustration).
- Parrish, Clara W., born at Selma, Ala. Pupil of Art Students' League, New York. New York.
229. Portrait (pastel).
- Parrish, Maxfield, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts and Howard Pyle. Windsor, Vt.
230. The Sandman.
- Pearce, Charles Sprague, born at Boston, Mass. Pupil of Léon Bonnat. Auvers-sur-Oise, France.
231. The Shawl.
- Pennell, Joseph, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts. London, England.
232. Notre Dame (drawing).
- Perrine, Van Deering, born in Kansas. Pupil of Cooper Union, New York; National Academy of Design, William M. Chase. New York.
233. The Flower Market in Winter.
- Picknell, W. L. (deceased), born at Boston, Mass. Pupil of Gérôme, George Inness.
234. Morning on the Loing.

- Platt, Charles A., born at New York. Pupil of Boulanger and Lefebvre. New York.
 235. Winter.
 236. Clouds.
- Poore, H. R., born at Newark, N. J. Pupil of Peter Moran, Pennsylvania Academy of Fine Arts; National Academy, New York, Loumeneis, and Bouguereau. Orange, N. J.
 236. The Wounded Hound.
- Porter, Benjamin C., born at Melrose, Mass. Address, New York.
 237. Portrait of Mrs. P.
 238. Portrait of Master P.
- Proctor, Phimister A. Pupil of Puech and Anglebert. New York.
 239. Puma.
- Pyle, Howard, born at Wilmington, Del.
 240. The Buccaneers' Christmas (illustration).
- Ranger, Henry W., New York.
 241. Becky Cole's Hill.
 242. Brooklyn Bridge.
- Redfield, Edward W., born at Bridgeville, Del. Pupil of Bouguereau and Fleury. Paris and Philadelphia, Pa.
 243. The Bridge, Joinville.
 244. Road to Edge of Hill.
- Rehn, F. K. M., born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts. New York.
 245. A Northwester in Gloucester Harbor.
- Reid, Robert, born at Stockbridge, Mass. Pupil of Boulanger and Lefebvre. New York.
 246. Azalea.
 247. Decorative painting in the hemicycle of the porch of the United States Pavilion.
- Reinhart, C. S. (deceased), born at Pittsburg, Pa.
 248. High Tide at Gettysburg (illustration).
- Reynolds, Mrs. Virginia, born at Chicago. Pupil of Professor Herterrich and Carl Marr, Lazar School. Chicago.
 249. Portrait (miniature).
 250. Portrait (miniature).
 251. Portrait (miniature).
- Richards, F. T., born at Philadelphia, Pa. Pupil of Thomas Eakins, Edmund B. Bensell, and Art Students' League, New York. New York.
 252. Doctor's Mistakes (illustration).
- Robinson, Theodore (deceased), born at Irasburg, Vt. Pupil of Carolus Duran and Gérôme.
 253. Woman at the Piano.
 254. The Canal.
 255. A Sardine Booth (illustration).
- Robinson, Will S., New York.
 256. Early Evening.
- Rogers, W. A., born in Springfield, Ohio. Address, New York.
 257. Faro at El Paso (illustration).
- Rolshoven, Julius, St. Louis, Mo.
 258. Great-Grandmother's Finery.
- Sargent, John S., born at Florence, Italy. London, England.
 259. Portrait of Miss Thomas.

Sargent, John S.—Continued.

260. Portrait of Mr. Wertheimer.

261. Portrait of Mrs. Meyer and Children.

Saxton, John G., born in Troy, N. Y. Pupil of Lefebvre, Robert Fleury, and Merson. New York.

262. Sunset in the Dunes.

Schofield, J. Elmer, born at Philadelphia, Pa. Pupil of Bouguereau, Donat, Ferrier, and Edmond Jean. Ogontz, Pa.

263. January Evening.

Schreyvogel, Charles, born at New York. Pupil of Kirchbach and Carl Marr. Hoboken, N. J.

264. My Bunkie.

Scott, E. H., born at Spring Water, N. Y. Pupil of National Academy of Design and Art Students' League, New York. New York.

265. Yellow Roses (aquarelle).

Sears, Sarah C., born at Cambridge, Mass. Pupil of Cowles Art School and Museum of Fine Arts. Boston, Mass.

266. Portrait of Lady in White (pastel).

267. Romola.

Sharp, J. H., born at Bridgeport, Conn. Pupil of Charles Verlat, Carl Marr, Jean Paul Laurens, and Benjamin Constant. Cincinnati, Ohio.

268. Head of Cheyenne.

269. Head of an American Indian (illustration).

Sherwood, Rosina Emmet, born at New York. Pupil of William M. Chase. New York.

270. Portrait Study (aquarelle).

271. Portraits of Children (illustration).

Smedley, William S., born in Pennsylvania. Bronxville, N. Y.

272. Challenged (illustration).

273. The Stern Parent (illustration).

274. In a gallery (illustration).

275. Old People in a Park (illustration).

Snell, Henry B., born at Richmond, England. Address, New York.

276. Twilight at Sea (aquarelle).

Spicer-Simson, Margaret, born at Washington, D. C. Pupil of Krauss, Boutet de Monvel, and Carrière. Paris and Washington, D. C.

277. Portrait of Miss Agnes Money (miniature).

278. Portrait of Miss Money Coutts (miniature).

Steele, Theodore C., born in Indiana. Pupil of Prof. Bentzur and Loefftz. Indianapolis, Ind.

279. The Bloom of the Grape.

Stephens, Alice Barber, born in New Jersey. Pupil of Pennsylvania Academy of Fine Arts and Julien Academy. Philadelphia, Pa.

280. Pierre was mother as well as father (illustration).

Sterner, Albert E., born at London, England. Pupil of Boulanger and Lefebvre-Nutley, New Jersey.

281. Portrait of a Lady (aquarelle).

282. Mother and Child (aquarelle).

283. Little Nell and Schoolmaster (illustration).

284. The Bride (illustration).

Stewart, Jules, born at Philadelphia, Pa. Pupil of Gérôme. Paris, France.

285. Nymphs of Nysa.

286. Laughing Woman.

- Story, Julian, born at Oxford England. Pupil of Frank Duveneek, Boulanger, and Lefebvre. Paris.
 287. Columbine.
 288. Portrait.
- Strafer, Harriette R., born at Covington, Ky. Pupil Academy of Fine Arts, Cincinnati, Ohio; Mrs. MacMonnies, Gustave Dourtois, and Colin. New York.
 289. Portrait of Mrs. S. (miniature).
- Taber, E. M. (deceased), born at New York.
 290. Mount Mansfield in Winter.
- Tanner, H. O., born at Pittsburg, Pa. Pupil of Thomas Eakins, Laurens, Constant. Paris and Pittsburg, Pa.
 291. Daniel in the Lions' Den.
- Tarbell, Edmund C., born at West Groton, Mass. Pupil of Boulanger and Lefebvre. Boston, Mass.
 292. The Venetian Blind.
 293. Across the Room.
- Taylor, Emily Drayton, born at Philadelphia, Pa. Pupil of Cecile Ferrier and Pennsylvania Academy of Fine Arts, Philadelphia, Pa.
 294. Dr. S. Weir Mitchell (miniature)
 295. Mrs. Chas. M. Lea (miniature).
- Taylor, C. J., born at New York. Pupil of National Academy of New York and Eastman Johnson. New York.
 296. The Chelsea Pensioner (illustration).
- Teasdel, Mary, born at Salt Lake City, Utah. Pupil of F. Brush, R. Collin, and L. R. Garrido. Paris and Salt Lake City, Utah.
 297. Maxime (miniature).
- Thayer, Abbott, born at Boston, Mass. Pupil of Wilmarth and Henry D. Morse, Lehman, and Gérôme. Dublin, N. H., and Boston.
 298. Brother and Sister.
 299. Virgin Enthroned.
 300. Young Woman.
- Thayer, Theodora W., Milton, Mass. Pupil of Joseph De Camp, Cambridge, Mass.
 301. Portrait (miniature).
 302. Portrait (miniature).
 303. Portrait (miniature).
- Theriat, Charles J., born at New York. Pupil of Lefebvre and Boulanger. Paris.
 304. Portrait.
- Thomas, S. Seymour, born at San Augustine, Tex. Pupil of Lefebvre, Constant, and Alexander Harrison. Paris and San Augustine, Tex.
 305. Lady in Brown (pastel).
- Vail, Eugene, born at St. Servan, France. Pupil of Caban, Dagnan, Bouveret, and Collin. Paris.
 306. Evening in Brittany.
 307. Voice of the Sea.
 308. Morning in October.
- Vedder, Simon H., born in Montgomery County, N. Y. Pupil of Bouguereau, T. Robert Fleury, Gérôme, and Glayse. London, England.
 309. Portrait.
- Vinton, Frederick P., born at Bangor, Me. Pupil of William M. Hunt, Dr. William Rimmer, Leon Bonnat, and Jean Paul Laurens. Boston, Mass.
 310. Portrait of Hon. A. W. Beard.
- Vonnoh, Robert W., born at Hartford, Conn. Pupil of Boulanger and Lefebvre. Rockland Lake, N. Y.
 311. Portrait of Miss Mildred Blair.

Vonnoh, Robert W.—Continued.

312. Little Louise.

Walden, Lionel, born at Norwich, Conn. Pupil of Carolus Duran. Paris, France.

313. Fishing in the Bay.

Walker, Horatio. New York.

314. Spring Plowing.

Wall, A. Bryan, born at Allegheny City, Pa. Pupil of A. Wall, Allegheny City, Pa.

315. Sheep.

Waters, Sadie (deceased).

316. The Virgin with Lilies (miniature).

Weeks, E. Lord, born at Boston, Mass. Paris.

317. Indian Barber.

318. The Awakening of Nouredin.

319. On the Road to Ispahan.

Weidner, Carl A., born at Hoboken, N. J. Pupil of National Academy of Design and Art Students' League, New York; Paul Nanen. New York.

320. Portrait of Victor Weidner (miniature).

Weir, J. Alden, born at West Point, N. Y. Pupil of Gérôme. New York.

321. The Ice Cutters.

322. Portrait of a Young Girl in Gray.

323. Noonday Rest.

Weir, John F., born at West Point, N. Y. Pupil of Robert W. Weir. New Haven, Conn.

324. Roses.

Weyden, Harry Van der, born at Boston, Mass. Pupil of Legros, Fred Brown, and Jean Paul Laurens. Montreuil-sur-Mer, France, and Boston.

325. Calm.

326. The Hillside.

Whistler, J. McNeil, born in United States. Pupil of Glayse. Paris.

327. Portrait (gray and gold).

328. Portrait (pearl and silver).

329. The Little White Girl.

Whittemore, William J., born at New York. Pupil Art Students' League, New York; National Academy, Benjamin Constant, and Lefebvre. New York.

330. Portrait in Green (miniature).

Wiles, Irving R., born at Utica, N. Y. Pupil of his father, Lefebvre, and Carolus Duran. New York.

331. Portraits.

Woodbury, Charles H., born at Lynn, Mass. Pupil of Boulanger and Lefebvre. Boston, Mass.

332. The Green Mill.

333. A Rock in the Sea.

Woodbury, Marcia O., born at Lynn, Mass. Pupil of Julien Academy, Paris. Boston, Mass.

334. Mother and Daughter (aquarelle).

335. The Smoker (aquarelle).

Wuerpel, Edmund H., born at St. Louis, Mo. Pupil of W. A. Bouguereau, Gabriel Ferrier, Edmund Aman-Jean. St. Louis, Mo.

336. Dreaming Waters.

Wyant, A. H. (deceased), born in Ohio. Pupil of Hans Gude.

337. Sunlit Vale.

338. In the Adirondacks.

339. Moonlight and Frost.

Yohn, F. C., New York.

340. Lord Chief Justice (illustration).

Zogbaum, Rufus F., born in Charleston, S. C. Pupil of Art Students' League of New York, and Leon Bonnat. New Rochelle, N. Y.

341. Hawkins at San Juan (illustration.)

342. Cutting the Cable Off Cienfuegos (illustration).

CLASS 8.—*Engravings and lithographs.*

Aikman, Walter M., born at New York. Pupil of Frank French, J. G. Smithwick. Brooklyn, N. Y.

1. Landscape.

2. Jade Screen.

Aitken, Peter, born at Dundas, Canada. Pupil of Timothy Cole. Brooklyn, N. Y.

3. Little Princess.

4. Portrait after Gilbert Stuart.

5. Madonna and Child.

Blaney, Henry R., born at Dedham, Mass. Ipswich, Mass.

6. Chinese Bronze.

7. Aquatint (still life).

Bernstrom, Victor, born at Stockholm, Sweden. New York.

8. Shepherdess.

9. River Scene.

10. Inspiration.

Chadwick, Charles Wesley, born at Red Hook, on the Hudson. Pupil of Frank French, Frederick Juengling, William Miller. Brooklyn, N. Y.

11. Napoleon, Lieutenant at Valence (after Realier-Dumas)

12. Arch of Steel (after Jean Paul Laurens).

13. La Rade de Toulon (after Gaston Rouillet).

14. Death of Braddock (after Howard Pyle).

15. Riff Moor (after Francis Day).

Cole, Timothy, born in London, England. Pupil of Bond, Chandler. New York.

16. Duke of Wellington (after Sir Thos. Lawrence).

17. Interior of Stable (after Geo. Moreland).

18. Mrs. Siddons (after Sir Thos. Lawrence).

19. Lady Derby (after Sir Thos. Lawrence).

20. William Pitt (after John Hopper).

21. Mrs. Siddons (after Sir Thos. Gainsborough).

22. The Parson's Daughter (after Geo. Romney).

23. Cicero's Villa (after Richard Wilson).

24. Lord Newton (after Sir Henry Raeburn).

25. William Hogarth (after William Hogarth).

Comstock, Anna B., born at Otto, N. Y. Pupil of John P. Davis. Ithaca, N. Y.

26. Plate of Moths.

27. Plate of Butterflies.

28. Plate of Moths.

29. Plate of Butterflies.

30. Dandelions.

31. Tiger and Butterfly.

32. Cherry Blossoms.

Davidson, Harry, born at Philadelphia, Pa. Pupil of Frederick Faust. New York.

33. Illustration for Serial Story (after L. Loeb).

34. Illustration for Serial Story (after L. Loeb).

Davidson, Harry—Continued.

35. Afternoon at a Ranch (after Mary Hallock Foot).

36. Exercises at Wellesley College (after Metcalf).

37. The Golden Gate, Chicago (after Castaigne).

38. Canterbury Cathedral (after Jos. Pennell).

Davis, Samuel P., born at Schenectady, N. Y. Pupil of A. V. S. Anthony, John P. Davis. New York.

39. After Dinner Nap (after Delph).

40. Cat, Kittens, and Parrot (after Ronner).

41. Cat, Kittens, and Cage (after Ronner).

42. Hound (after Bonheur).

Evans, John W., born at Brooklyn, N. Y. Pupil of P. R. B. Pierson. Brooklyn, N. Y.

43. Avignon (after Castaigne).

44. The Artist (after Castaigne).

45. The Ford (after Charlier).

46. The Charge (after Charlier).

French, Frank, born at London, N. H. New York.

47. Beggar Girl (after Louis Deschamps).

48. Rose Leaves (after Albert Moore).

49. Shower in the Meadow (original).

50. The New Year (original).

51. Izaak Walton and the Milkmaid (after Boughton).

Heinemann, E., born at Brunswick, Germany. Pupil of A. Closs, Bredeamour, Art Students' League, New York. Fort Wadsworth, Staten Island. New York.

52. Edouard and Casimir Joseph Mortier.

53. A Moment of Peril.

Hopson, William F., born at Watertown, Conn. Pupil of Sandford, J. D. Feltes, and August Will. New Haven, Conn.

54. Ex Libris, Engravings on Copper.

Johnson, Thomas, born at London, England. Pupil of F. Williams. New York.

55. Portrait of Washington (after Gilbert Stuart).

56. Marshal Soult.

57. Gen. Marmont.

58. Sir Thomas Sloan.

59. Chas. Palthazar (after Val).

60. Gen. Joe Wheeler.

61. Cromwell.

62. Tennyson.

Jones, Alfred, born at Liverpool, England. Pupil of National Academy of Design, New York. Yonkers, N. Y.

63. Portrait of Geo. Washington.

King, F. S., born in Maine. Pupil of John Orr. Roseville, N. J.

64. Paul Revere.

65. Isaiah L. Thomas, esq.

66. Book Plate of the Printer's Devil.

67. The Golden Galleon.

Kingsley, Elbridge, born at Cincinnati, Ohio. Pupil of Cooper Union, New York. Hadley, Mass.

68. Autumn Evening (after D. W. Tryon).

69. Old Homestead (after J. Francis Murphy).

70. Springtime (after D. W. Tryon).

71. Tragedy of Spring (original).

72. New England Elms (original).

- Kruell, Gustav, born at Duesseldorf, Germany. Pupil of R. Brendeamour. East Orange, N. J.
- 73. Abraham Lincoln.
 - 74. Gen. William T. Sherman.
 - 75. Gen. Robert E. Lee.
- Miller, William, born at New York. Pupil of Frank Leslie's Publishing House. New York.
- 76. Portait of an Unknown Man.
 - 77. Confectioner.
 - 78. Moonlight.
 - 79. Maine Coast.
- Northcote, Stafford M., born at Brooklyn, N. Y. Pupil of E. Heinemann, Professor Boyl. New York.
- 80. Japanese Romance.
- Pennell, Joseph, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts. London, England, and Philadelphia.
- 81. The Devil of Notre Dame.
 - 82. The Most Picturesque Place in the World.
 - 83. Aquatints of London.
- Powell, Caroline A., born at Dublin, Ireland. Pupil of J. W. Linton and Timothy Cole. Cambridge, Mass.
- 84. Gorilla and Circassian Girl.
 - 85. Holy Night.
 - 86. Windmill.
 - 87. In the Sun.
- Putnam, S. G., born at Nashua, N. H. Pupil of H. W. Herrick, Frank French, and E. J. Whitney, Brooklyn Art Association and Art Students' League. Oredell, N. J.
- 88. A Street Musician.
 - 89. Princess Marie of Austria.
 - 90. The King's Messenger.
 - 91. Mirabeau and the King's Messenger.
- Schladitz, E., born at Leipzig, Germany. New York.
- 92. Geo. Washington.
 - 93. Queen Louise.
- Schwartzburger, C., born at Leipzig, Germany. Brooklyn, N. Y.
- 94. Arrival of High Chinese Authorities (after drawing).
 - 95. An Arrest in the Village (after painting).
 - 96. The Chew Mansion (after H. Penn).
- State, Charles, born at Montreal, Canada. Pupil of John H. Walker. New York.
- 97. Dumond's "Holy Family."
 - 98. Preparing for the Final Dance (after Castaigne).
 - 99. Office of the Hebrew United Charities.
 - 100. Tyrolean Village (after Louis Loeb).
- Tinkey, John, born at New York. Pupil of J. D. Felter. New York.
- 101. A Swineherd of the Danube.
- Wellington, Frank H., Passaic, N. J.
- 102. The Sea Fight (after Howard Pyle).
 - 103. Holland Landscape (after W. H. Ranger).
- Wolf, Henry, born in Alsace, Germany. Pupil of Jacques Levy. New York.
- 104. Miss Beatrice Goelet (after Sargent).
 - 105. Cynthia (after Cecilia Beaux).
 - 106. Reverie (after Cecilia Beaux).
 - 107. La Bernoise (after Dagnan-Bouveret).
 - 108. Le Crépuscule (after Alexander Harrison).

Wolf, Henry—Continued.

109. The Evening Star (original).

110. Un Canal en Artois (after J. C. Cazin).

111. Through the Looking Glass (after J. A. Weir).

Whistler, J. McNeill.

112.

113.

114.

115.

116. Etchings.

117.

118.

119.

120.

121.

CLASS 9.—*Sculpture and engravings upon medals and gems.*

Barnard, George Grey, born at Bellefonte, Pa. Pupil of Art Institute, Chicago. New York.

1. God Pan.

2. The Two Natures.

Barnhorn, Clement J. Pupil of Mercié, Peuch, Bouguereau, Ferrier, Académie Julien. Cincinnati, Ohio.

4. A Magdalen.

Bartlett, Paul W., born at New Haven, Conn. Pupil of Fremiet. St. Leu, Seine-et-Oise, France and New Haven, Conn.

5. Statue of Michel Angelo.

Beveridge, Kuehne, born in Springfield, Mass. Pupil of O'Donovan and Rodin. Paris, France.

6. Veiled Venus.

7. Wm. A. Chandler (bust).

Bitter, Karl, born at Vienna, Austria. Pupil of Vienna Academy and Edmund Hellner, Weehawken, N. J.

8. Dancing Children (fountain; bronze).

9. Boy Stealing Geese (fountain; bronze).

Borglum, Solon H., born at Ogden, Utah. Pupil of Louis Rebisson and Fremiet. Paris and Cincinnati, Ohio.

10. Lamé Horse.

11. Horse with Colt in Wind.

12. Horse and Indian.

Brenner, Victor David, born at Shavly Russia. Pupil of Louis Oscar Roty. Paris and New York.

13. Panel with five medallions.

Brooks, Richard E., born at Braintree, Mass. Pupil of T. H. Bartlett and Injalbert. Paris and Boston, Mass.

14. Statue of Colonel Cass.

15. O. W. Holmes.

16. The Wave.

Calder, Alexander Sterling, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts, Chapu and Falguière. Philadelphia, Pa.

17. Narcissus.

Dallin, Cyrus E., born at Springfield Utah. Pupil of Chapu and Dampé. Boston, Mass.

18. Medicine Man.

- Flanagan, John, born at Newark, N. J. Pupil of Ellen Kitson, Joseph Smith, Henri Chapu, Falguière. Paris.
19. Swift Runners.
 20. Ten medallions in metal.
 21. Eagle for top of dome of United States Pavilion.
 22. Decorative motive crowning angles of United States Pavilion.
 23. Head of Athlete.
- French, Daniel C., born at Exeter, N. H. Pupil of Thomas Ball. New York.
24. Equestrian statue of General Washington.
- Gelert, Johannes Sophus, born in Schleswig, Germany. Pupil of Royal Academy of Fine Arts. New York.
25. The Little Architect (marble).
- Graffy, Charles, born at Philadelphia, Pa. Pupil of Pennsylvania Academy of Fine Arts, Chapu, Damp. Philadelphia, Pa.
26. The Symbol of Life.
 27. From Generation to Generation.
 28. Portrait of Mrs. Chas. Graffy.
 29. Portrait of My Mother.
 30. Vulture of War.
- Harvey, Eli, born at Ogden, Ohio. Pupil of Lentz, Noble, Rebisson, Constant, Lefebvre, Doucet, Delance, Chaillou, Fremiet. Paris, and Cincinnati, Ohio.
31. Lion Cubs.
- Herring, Miss Mabel C., born at Boothbay, Me. Pupil of Merson, Collin, St. Gaudens, and MacMonnies. Paris, and Boothbay, Me.
32. Echo.
- Kitson, Henry Hudson, born at Huddersfield, England. Pupil of Bonnassieux. Boston, Mass.
33. Queen Elizabeth, of Roumania (Carmen Sylva; marble).
- Lucas, Albert P. Paris.
34. Sambo.
- MacMonnies, Frederick, born at Brooklyn, N. Y. Pupil of Augustus St. Gaudens, Falguière. Paris.
35. Bacchante.
 36. Sir Henry Vane.
 37. Shakespeare.
 38. Two Groups Horses.
 39. Group Navy.
 40. Group Army.
 41. Venus and Adonis.
 41. A Cupid; Boy with Duck.
- MacNeil, Carol Brook, born at Chicago, Ill. Pupil of Art Institute of Chicago, Taft, MacMonnies, and Injalbert. Paris, France.
42. Fiasco Holder (bronze).
 43. Samovar (bronze).
 44. Giotto Giovane (bronze).
- MacNeil, H. A., born at Chelsea, Mass. Pupil of Henri Chapu, Falguières. Paris, and Boston, Mass.
45. The Sun Vow.
 46. Last Act of the Moqui Snake Dance.
 47. Spandrels on Portico of the United States Building.
- Murray, Samuel, born at Philadelphia, Pa. Pupil of Thomas Eakins. Philadelphia, Pa.
48. Portrait of Benjamin Eakins, Esq.
- Peddle, Caroline C., born at Terre Haute, Ind. Pupil of Augustus St. Gaudens, Kenyon Cox. Paris, and Terre Haute, Ind.
49. Bronze Clock.

Proctor, A. Phimister, New York. Pupil of Peuch and Injalbert. New York.

50. Quadriga for United States Pavilion.

51. Indian Warrior.

52. The Challenge Elk.

53. Standing Puma.

54. Standing Puma, pendant.

55. Panther, "Fate."

56. Young Fawn.

57. Panther.

58. Dog with Bone.

Rondebust, J. H., New York.

59. The Wrestlers.

St. Gaudens, Augustus, born at Dublin, Ireland. Pupil of Cooper Institute and National Academy of Design, and the École des Beaux Arts. New York.

60. Equestrian Statue of Gen. Sherman with Victory.

61. High Relief—The Shaw Memorial.

62. Angel with the Tablet.

63. The Puritan.

64. Frame with Medallion (portraits).

Scudder, Janet, born at Terre Haute, Ind. Pupil of Lorado Taft and MacMonnies. Paris, France.

65. Decorative Panel for Music Room.

Simons, Amory C., born at Charleston, S. C. Pupil of Damp, Peuch. Paris, and Charleston, S. C.

66. Surprise.

Tilden, Douglas, Oakland, Cal.

67. Football Players.

Vonnoh, Mrs. Bessie Potter, born at St. Louis, Mo. Pupil of Art Institute, Chicago. Rockland Lake, N. Y.

68. A Young Mother.

69. Girl Dancing.

Yandell, Enid, born at Louisville, Ky. Pupil of Philip Martiney, MacMonnies, and Rodin. Paris, and Cincinnati, Ohio.

70. Mermaid and Fisher Boy.

CLASS 10.—*Architecture.*

Almirall. (See Ingle.)

Andrews, Jaques & Rantoul, Boston, Mass.

1. House at Brookline, Massachusetts.

Babb, Cook & Willard, New York.

2. Building for the DeVinne Press, New York.

Berg, Charles L., New York.

3. Gillender Building, New York.

Boring and Tilton, New York.

4. Bureau of Immigration at Ellis Island, New York.

Brite & Bacon, New Haven, Conn.

5. Club House, New Haven, Connecticut.

Burnham, D. H., Chicago, Ill.

6. Masonic Temple, Chicago.

7. Theatre and Office Building, Chicago.

8. Illinois Trust Company, Chicago.

Carrere & Hastings, New York.

9. Hotel Ponce de Leon, St. Augustine, Florida.

10. New York Public Library.

11. Benedict House, Connecticut.

12. Residence of Henry T. Sloane, New York.

Clas. (See Ferry.)

Coolidge and Goustiaux, Chicago.

13. United States Pavilion, Paris Exposition.

Cope & Stewardson, Philadelphia, Pa.

14. House of Mr. John Sims, Laverock, Pennsylvania.

15. School for the Blind, Overbrook, Pennsylvania.

16. Dormitories of the University of Pennsylvania, Philadelphia, Pennsylvania.

Cram, Goodhue & Ferguson, Boston, Mass.

17. Church at Ashmont, Massachusetts.

Day, Frank Miles, & Brother, Philadelphia, Pa.

18. The Crozer Building, Philadelphia.

19. House of C. W. Bergner, Ambler, Pennsylvania.

20. House on Locust St., Philadelphia, Pennsylvania.

21. Horticultural Hall, Philadelphia, Pennsylvania.

Eyre, Wilson, jr., Philadelphia, Pa.

22. House of Craig Heberton, Camp Hill, Pennsylvania.

23. House of Charles L. Boree, Jenkintown, Pennsylvania.

24. Cottage, Lehman St., Germantown, Pennsylvania.

25. A Broker's Office, Philadelphia.

Ferry & Clas, Milwaukee, Wis.

26. Milwaukee Public Library.

Flagg, Ernest, New York.

27. Singer Building, New York.

28. Scribner Building, New York.

Hardenberg, H. J., New York.

29. Hotel Waldorf-Astoria, New York.

Hewlet. (See Lord.)

Heydel & Shepard, New York.

30. } Church at Scarborough (two views).
31. }

Hull. (See Lord.)

Hunt, R. M., New York.

32. Residence of John Jacob Astor, New York.

33. Biltmore, Country Residence of George Vanderbilt, Asheville, North Carolina.

Ingle and Almirall, Binghamton, N. Y.

34. Town Hall, Binghamton.

Jaques. (See Andrews.)

Kimball. (See Walker.)

Kimball & Thompson, New York.

35. Manhattan Life Building, New York.

Lord, Hewlett & Hull, New York.

36. Cedarhurst, House at.

37. Longfellow, A. W. City Hall, Cambridge, Massachusetts.

MacKim, Mead & White, New York.

38. University Club, New York.

39. Boston Public Library.

40. Columbia College Library, New York City.

Morris. (See Walker.)

Peabody & Stearns, Boston, Mass.

41. Wheatleigh, Lenox, Massachusetts.

Post, George B., New York.

42. Union Trust Building, New York.

Price, Bruce, New York.

43. American Surety Building, New York.

Rantoul. (See Andrews.)

Reid Brothers, San Francisco, Cal.

44. Claus Spreckels Building, San Francisco, California.

Schweinfurt, A. C., San Francisco, Cal.

45. Hearst House, California.

Shepard. (See Hayden.)

Shepley, Rutan & Coolidge, Boston, Mass., and Chicago, Ill.

46. Ames Building, Boston.

47. Porch of Trinity Church, Boston.

48. House in Dedham, Massachusetts.

Thompson. (See Kimball.)

Vaughan, Henry, Boston, Mass.

49. Interior of Chapel of St. Paul's School, Concord, New Hampshire.

50. Exterior of Church, New Haven, Connecticut.

Walker & Kimball, Boston, Mass.

51. Omaha Exposition.

Walker and Morris, New York.

52. Bronxville, New York.

Wheelwright & Haven, Boston, Mass.

53. Bowdoin School, Boston.

54. Brighton High School, Brighton, Massachusetts.

Whitney, Warren, New York.

55. New York Yacht Club.

GROUP III.—APPLIANCES AND GENERAL PROCESSES RELATING TO LITERATURE, SCIENCE, AND ART.

CLASS 11.—*Typography—Various printing processes.*

EQUIPMENT, PROCESSES, AND PRODUCTS.

Addressograph Company, 173 South Canal street, Chicago: Machines for addressing envelopes, wrappers, etc., and machine for making Printing plates.

American Postal Machine Company, Boston, Mass.: Canceling machines.

American Society of National Advertisers, Chicago: Collection of hangers, calendars, etc., of advertisers of the United States.

Contributors: American Lithograph Company, New York City, calendars; California Fig Syrup Company, San Francisco, Cal., lithograph; Drummond Tobacco Company, St. Louis, Mo., lithograph; Dunston, G. H., & Co., Buffalo, N. Y., lithograph; Fairbank, N. K., & Co., Chicago, Ill., calendars and signs; Gillim Print Company, New York City, theatrical lithographs; Gray Lithograph Company, New York City, calendar; Greve Lithograph Company, Milwaukee, Wis., lithographs; Harter Medicine Company, Dayton, Ohio, lithograph; Hawes Hats, New York City, lithographs; Gilson Company, The, New York City, lithographs; Hood, C. I., & Co., Lowell, Mass., lithographs; Kaufmann & Strauss Company, New York City, lithographs; Leggett & Myers, St. Louis, Mo., lithograph; Liebig Company, New York City, advertising cards; Liebig Extract of Beef Company, New York City, lithograph; Liebig Extract of Meat Company, New York City, lithograph; Matthews-Northrup Company, Buffalo, N. Y., lithograph; Michigan Stove Company, Chicago, Ill., lithograph; Niagara Lithograph Company, Buffalo, N. Y., lithographs and calendars; Ottman, J., Lithograph Company, New York City, lithographs; Pond's Extract Company, New York City, advertising cards; Pope Manufacturing Company, Hartford, Conn., lithograph; Prescott, J. L., & Co., New York City, lithograph; Rogers & Wells, Chicago, Ill., calendars; Sherwood Lithograph Company, Chicago, Ill., lithograph; Street & Smith, New York City, lithograph; Swift & Co., Chicago, Ill., lithographs; Witter, J. C., New York City, lithograph.

- American 3 Color Company, 161-169 South Canal street, Chicago: Prints produced by three-color process.
- American Type Founders' Company, 25 William street, New York City: Type, type founders' supplies, modern composing, imposing, and commercial printing office.
- American Writing Machine Company, 316 Broadway, New York: New Century typewriting machine.
- Babcock Printing Press Manufacturing Company, New London, Conn.: Babcock flat-bed cylinder printing press.
- Barnhart Bros. & Spindler, Great Western Type Foundry, 185 Monroe street, Chicago: Type, type founders' supplies, modern composing, imposing, and commercial printing office.
- Barr-Fyke Canceling Machine Company, Kansas City, Mo.: Canceling machine.
- Barrie, George, & Son, 1313 Walnut street, Philadelphia, Pa.: Engravings, etchings, and color facsimiles.
- Barry Postal Supply Company, Oswego, N. Y.: Canceling machine.
- Blickensderfer Manufacturing Company, The, Stamford, Conn.: Blickensderfer typewriting, electrical writing, and cipher code machines.
- Bowen, William M. P., 57 Waterman street, Providence, R. I.: Carbon holder for manifold typewriting.
- Bureau of Engraving and Printing, U. S. A., Washington, D. C.: United States money, bonds, certificates, postal and revenue stamps.
- Campbell Printing Press Manufacturing Company, New York: Campbell flat-bed cylinder printing press.
- Chandler & Price Company, Cleveland, Ohio: Gordon printing presses, composition rollers, chases, etc.
- Chicago Colortype Company, 1205 Roscoe street, Chicago: Three-color process; reproductions from drawings of articles of merchandise.
- Chicago Writing Machine Company, 96 Wendell street, Chicago: Typewriting machines; Munson interchangeable steel type wheel.
- Columbia Typewriter Manufacturing Company, The, 43 West One hundred and sixteenth street, New York City: Columbia bar-lock typewriting machines.
- Cottrell, C. B., & Sons Company, 41 Park Row, New York: High-speed Cottrell four-roller two-revolution printing press.
- Densmore Typewriter Company, 309 Broadway, New York: Densmore typewriting machines. The five styles of machines shown all have the unique ball-bearing type bars.
- Des Jardins, B. M., Hartford, Conn.: Adding attachment for typewriting machines.
- Des Jardins Type Justifier Company, The, Hartford, Conn.: Automatic machines for justifying type in connection with setting and distributing type.
- Dick Company, A. B., 154 Lake street, Chicago: The Edison mimeograph.
- Doremus Canceling Machine Company, St. James Building, Broadway, New York: Canceling machine.
- Duncan, J. S., 173 South Canal street, Chicago: Graphotype machine for making metal address plates; rubber type made from metal molds.
- Durant, W. N., 237 Twenty-second street, Milwaukee, Wis.: Counting machines for use on printing presses; line-casting and other machines.
- Frank Leslie Publishing House, 143 Fifth avenue, New York: Original art sketches in water color, wash drawing, pen and ink specimens.
- Franklin Typewriter Company, 320 Broadway, New York City: Franklin typewriting machines.
- Gerry & Murry, 31 Broad street, New York: Reproductions of typewritten and autograph letters.
- Goss Printing Press Company, The, Sixteenth street and Ashland avenue, Chicago: Goss straight-line multiple newspaper perfecting printing press.

- Hamilton Manufacturing Company, Two Rivers, Wis.: Wood type, ornaments; printing house furniture and suppliss.
- Hammond Typewriter Company, The, 537-551 East Sixty-ninth street, New York City: Hammond typewriting machines.
- Harris Automatic Press Company, Niles, Ohio: Rapid automatic job printing presses.
- Heinicke Fiegl Lithographing Company, First and Chestnut streets, St. Louis, Mo.: Specimens of commercial lithography.
- Hempel & Dings, Buffalo, N. Y.: Printers' mechanical quoins.
- Imperial Manufacturing Company, Elkhart, Ind.: Cardboard stencil-cutting machine.
- Inland Printer Company, The, 214 Monroe street, Chicago: Specimens of printing from The Inland Printer.
- Jewett Typewriter Company, Des Moines, Iowa: Duplex and Jewett typewriting machines.
- Lambert Typewriter Company, The, 83 Washington street, Brooklyn, N. Y.: Lambert typewriting machines.
- Lanston Monotype Machine Company, Washington, D. C.: Keyboard to manual process and automatic type casting and composing machines.
- Latham Machinery Company, 197 South Canal street, Chicago: "Monitor" perforating machine for printing-house work.
- Levy, Louis Edward, 824 North Eighth street, Philadelphia, Pa.: Acid blast method of chemical engraving, and machinery for its application.
- Mergenthaler Linotype Company, New York: Machines for the mechanical composition of type.
- Meyercord Company, The, Chamber of Commerce, Chicago: Decalcomania transfer ornaments in both vegetable and mineral colors.
- Miehle Printing Press and Manufacturing Company, 75 North Clinton street, Chicago: Miehle two-revolution flat-bed book and color printing press.
- Miehle, Robert, Chicago: Improvement in bed motion and sheet delivery of printing presses.
- Mitchell, John J., Company, The, 105 Fifth avenue, New York: Specimens of printing in the production of fashion plates.
- Mittag & Volger, Park Ridge, N. J.: Typewriter carbon papers, ribbons, and oils; pencil and stylus carbon papers; stamping ribbons and metal stamp ink.
- Morgan, W. J., & Co., Cleveland, Ohio: Lithographs—1. Reproduction of Rosa Bonheur's painting, The Horse Fair. 2. Portrait of President McKinley.
- National Association of Photo-Engravers, 175 Clark street, Chicago: Mezzotint impression, photomechanical reproduction processes.
- National Machine Company, Hartford, Conn.: Gally Universal printing press.
- Neostyle Manufacturing Company, The, 102 Church street, New York: Various types of Neostyle duplicating machines.
- Oliver Typewriter Company, The, Washington and Dearborn streets, Chicago: Oliver typewriting machines.
- Osgood Art Colortype Company, Woman's Temple, Chicago: New process for color printing.
- Pittsburg Writing Machine Company, Pittsburg, Pa.: Pittsburg visible writing machines.
- Quigley Furniture Company, Whitesboro, N. Y.: Adjustable tables for typewriters.
- Remington-Sholes Company, 127 Rees street, Chicago: Remington-Sholes typewriting machines; publication.
- Rouse, Harry B., 1163 North Seventieth avenue, Chicago: Printers' lead and rule cutters and printers' adjustable composing sticks.
- Slade & Hicks, Chicago, Ill.: Lithography.
- Smith-Premier Typewriter Company, The, Syracuse, N. Y.: Smith-Premier typewriting machines; publication.

- Smith, R. H., Manufacturing Company, Springfield, Mass.: Easy sign markers, rubber type, and office stamps.
- Tenney, J. F., Company, 70 Madison street, Chicago: Rubber type in fonts, price and sign markers' outfits.
- Tiffany & Co., Union Square, New York: Copper and steel plate and intaglio printing; stamping and embossing from dies.
- Underwood, John, & Co., 30 Vesey street, New York City: Typewriter supplies.
- United States Government Printing Office, Washington, D. C.: Specimens of typography, reports of executive departments, scientific publications, etc.
- Unitype Company, The, New York City: Simplex typesetting machine.
- Verbeck, George J., Michigan avenue and Madison street, Chicago: Bank-note engraving.
- Wagner Typewriter Company, 220 Broadway, New York City: The Underwood typewriting machines.
- Wesel, F., Manufacturing Company, New York City: Printers' brass galleys.
- Western Bank Note and Engraving Company, Chicago: Specimens of steel-plate engraving and printing.
- Wetter, Joseph, & Co., 515 Kent avenue, Brooklyn, N. Y.: Numbering machines.
- Williams Typewriter Company, Derby, Conn.: Williams typewriting machines.
- Wyckoff, Seamans & Benedict, 327 Broadway, New York City: Remington typewriting machines; publication.
- Yesbera Manufacturing Company, Toledo, Ohio: Adjustable combination tables for exhibition purposes.
- Yost Writing Machine Company, 320 Broadway, New York: Yost typewriting machines.

CLASS 12.—*Photography.*

EQUIPMENT, PROCESSES, AND PRODUCTS.

- American Aristotype Company, Jamestown, N. Y.: Photographic prints.
- American 3 Color Company, 91 Plymouth place, Chicago, Ill.: Commercial catalogues and art publications.
- Baker Art Gallery, 106 South High street, Columbus, Ohio: Genre photographs.
- Bausch & Lomb Optical Company, Rochester, N. Y.: Lenses, shutters, and fine photographic instruments; photographs.
- Bolles, C. E., 244 Fulton street, Brooklyn, N. Y.: Yachting and marine photographs.
- Brenner, W. N., 14-16 East Fourth street, Cincinnati, Ohio: Portraiture photography.
- Burton Photography Company, 9 West Forty-second street, New York: Yachting photographs.
- Byron, Joseph, 1286 Broadway, New York City: Flash-light photographs of scenes in American theaters.
- Chicago Colortype Company, 1205 Roscoe street, Chicago, Ill.: Threc-color process; reproductions from drawings of articles of merchandise.
- Corne, W. F., 76 State street, Boston, Mass.: Framed photograph, Mater Dolorosa.
- Curtis & Cameron, Boston, Mass.: Photographs known as Copley prints.
- Dodge, Charles Richards, 30-36 Vermont avenue, Washington, D. C.: Artistic photography.
- Eastman Kodak Company, Rochester, N. Y.: Kodaks, photographic apparatus, and pictures.
- Johnston, Fannie B., Washington, D. C.: Artistic portraiture photography.
- Lawrence, George R., 2701 Indiana avenue, Chicago: Photographs by artificial light.
- Levy, Max, 1213 Race street, Philadelphia, Pa.: Screens for half-tone process and proofs from engravings.
- Lubin, Siegmund, 21 South Eighth street, Philadelphia, Pa.: Apparatus and materials for obtaining and reproducing cinegraph photography.
- Nepera Chemical Company, Nepera Park, N. Y.: Photographic prints made on Nepera Chemical Company's products; demonstration of new velox products.

Osgood Art Colortype Company, Woman's Temple, Chicago, Ill.: New process for color printing.

Photo-Materials Company, Rochester, N. Y.: Photographs.

Popular Photograph Company, 114 Bleecker street, New York: Apparatus for instantaneous photography, known as Nodark.

Rinehart, F. A., Omaha, Nebr.: Photographs of American Indians.

Schumacher, F. G., Los Angeles, Cal.: Photographs.

Steckel, George, Los Angeles, Cal.: Studio photography.

Tabor Photographic Company, San Francisco, Cal.: Photographs and carbon prints.

White Company, The H. C., North Bennington, Vt.: Patented dark-chamber stereoscopes and stereoscopic views.

CLASS 13.—*Books, musical publications, bookbinding (equipments and products), newspapers, posters.*

Advance Publishing Company, 215 Madison street, Chicago: Publication—The Advance.

American Baptist Publishing Society, 1420 Chestnut street, Philadelphia, Pa.: Publications—The Advance Quarterly and various religious publications.

American Druggist Publishing Company, 68 West Broadway, New York: Publication—American Druggist and Pharmaceutical Record.

American Electrician Company, 120 Liberty street, New York City: Publication—American Electrician.

American Florist Company, 324 Dearborn street, Chicago: Publication—The American Florist.

American Homes Publishing Company, Knoxville, Pa.: Publication—American Homes.

American Lutheran Publication Board, Pittsburg, Pa.: Publications—Lutheran Guide and Lutheran Witness.

American Machinist Press, 218 Williams street, New York City: Publication—American Machinist.

American Medical Association, 61 Market street, Chicago: Publication—Journal American Medical Association.

American Newspaper Directory, New York: Directory of American Newspapers.

American Peace Society, The, 3 Somerset street, Boston, Mass.: Publication—The Advocate of Peace.

American Seamen's Friend Society, The, 76 Wall street, New York City: Publication: The Sailors' Magazine.

American Shipbuilder, 7 Coenties slip, New York: Publications.

American Society for Prevention of Cruelty to Animals, Madison avenue and Twenty-sixth street, New York City: Publication—Our Animal Friends.

American Society of National Advertisers, Chicago: Collection of posters and cover designs of advertisers of the United States.

Contributors: Achert & Henckel Lithograph Company, Cincinnati, Ohio, posters; Adams & Westlake Company, Chicago, Ill., posters; Ainslee & Company, Howard, New York City, cover designs; American Cereal Company, Chicago, Ill., posters; American Lithograph Company, New York City, posters; Art Amateur, The, New York City, posters; Baker, Walter, & Co., Dorchester, Mass., posters; Bien, Julius, & Co., New York, posters; Bookman, The, New York City, posters; Century Company, The, New York City, cover designs; Courier Company, Buffalo, N. Y., posters; Denslow, W. W., Chicago, Ill., posters; Dew Drop Cigar Company, New York City, poster; Dunston, G. H., & Co., Buffalo, N. Y., cover designs; Edwards, Deutch & Heitman, Chicago, Ill., poster; Fairbank, N. K., Company, Chicago, Ill., poster; Franco-American Soup Company, New York City, cover design; Gillen Lithograph Company, Philadelphia, Pa., posters; Greve Lithograph Company, Milwaukee, Wis., posters; Harper Brothers, New York City, posters; Hart,

Shafner & Marx, Chicago, Ill., posters; Hood, C. I., & Co., Lowell, Mass., posters; Inland Printer Company, The, Chicago, Ill., poster; Kaufmann & Strauss Company, New York City, posters; Ketterlinus Lithograph Company, Philadelphia, Pa., posters; Leggett & Meyers, St. Louis, Mo., poster; Liberty Cycle Company, Bridgeport, Conn., poster; Liebig Extract of Meat Company, New York City, posters; Michigan Stove Company, Chicago, Ill., poster; Niagara Lithograph Company, Buffalo, N. Y., posters; Orcutt Lithograph Company, New York City, posters; Ottman, J., Lithograph Company, New York City, posters; Pabst Brewing Company, Milwaukee, Wis., poster; Pond's Extract Company, New York City, poster; Prang, L., & Co., Boston, Mass., cover design; Pyle, James, New York City, posters; Rogers & Wells, Chicago, Ill., poster; Round Oak Stove Works, Dowagiac, Mich., poster; Sherwood Lithograph Company, Chicago, Ill., posters; Soper, J. H., Gardner, New York City, cover design; Sterling Remedy Company, Attica, Ind., posters; Stokes, Frederick A., & Co., New York, posters; Street & Smith, New York City, cover design; Strowbridge Lithograph Company, Cincinnati, Ohio, posters; Thomas & Wylie Lithograph Company, New York, poster; Walker, George H., & Co., Boston, Mass., posters; Wellman & Dwyer Tobacco Company, St. Louis, Mo., poster; Winship & Co., Chicago, Ill., poster; Woman's Home Companion, Springfield, Ohio, cover designs.

Andrew, Thomas H., 811 Western avenue, Seattle, Wash.: Publication—The American Forester.

American 3 Color Company, 91 Plymouth place, Chicago, Ill.: Commercial catalogues and art publications.

Angus Sinclair Company, 95 Liberty street, New York City: Publication—Locomotive Engineering.

Anthony, E. & H. T., & Co., 591 Broadway, New York: Publication—Anthony's Photographic Bulletin.

Armour & Co., Chicago, Ill.: Poster calendar.

Aull, Elbert H. & Co., Newberry, S. C.: Publications.

Ayers, N. W., & Co., Times Building, Philadelphia, Pa.: Newspaper Directory.

Barnes, A. S., & Co., 156 Fifth avenue, New York: Publication.

Barrie, George, & Son, 1313 Walnut street, Philadelphia, Pa.: Publications; printing, binding, and reproductions.

Benjamin, W. E., 22 West Thirty-third street, New York City: Publications.

Benz, August, 813 Davis street, Evanston, Ill.: Publication.

Bergstresser, J. C., 339 Fifth avenue, Pittsburg, Pa.: Publication—Insurance World.

Bettelheim, E. S., 1441 Broadway, New York City: Publication—New York Democratic News.

Bill, Edward Lyman, 3 East Fourteenth street, New York City: Publication—Music Trade Review.

Birmingham, Ernest F., Park Row Building, New York: Publication—The Fourth Estate.

Blumenberg Press, 214 Williams street, New York: Books, publications, catalogues, artistic prints.

Bohn, H. J., & Bro., 324 Dearborn street, Chicago: Publication—The Hotel World.

Bolton, W. E., Woodward, Okla.: Publication—Live Stock Inspector.

Bonner's, Robert, Sons, New York: Publication—Ledger Monthly.

Book-Keeper Publishing Company, Limited, The, Buhl Block, Detroit, Mich.: Publication—The Book-Keeper.

Bowen, Clarence W., 130 Fulton street, New York City: Publication—The Independent.

Bowker, R. R., 59 Duane street, New York City: Publication—Publishers' Weekly.

Bowles, J. M., 234 Congress street, Boston, Mass: Publications—Modern Arts, and Arts and Crafts.

- Branday, F. C., Whitney's Point, N. Y.: Publication—Practical Poultryman.
- Brewers' Journal, The, 24 Park place, New York City: Publication—The Brewers' Journal.
- Broadway Publishing Co., 1123 Broadway, New York: Publication—Broadway Magazine.
- Brooklyn Daily Eagle, The, Brooklyn, N. Y.: Guide to Paris Exposition.
- Brush and Pencil Publishing Company, The, 215 Wabash avenue, Chicago, Ill.: Publication.
- Bureau of the American Republics, Washington, D. C.: Commercial directory.
- Butterick Publishing Company, Limited, 17 West Sixteenth street, New York: Publication—The Delineator.
- Butterworth, T., 152 Fiftieth street, Chicago: Publication—The Live Stock Journal.
- California Fruit Grower, 320 Sansome street, San Francisco, Cal.—Publications.
- Calla, Max & Co., 237 Dock street, Philadelphia, Pa.: Publications—Presbyterian, and Reformed Review.
- Campbell, J. B., Monon Building, Chicago: Publication—History of the Paris Exposition of 1900 and of the Chicago Exposition.
- Campbell's Illustrated Journal, Monon Building, Chicago: Illustrated publication.
- Carl, William C., 34 West Twelfth street, New York City: Pamphlets, subject, The Church Organ.
- Cassell & Co., Limited, 9 West Eighteenth street, New York City: Publication—Cassell's Magazine.
- Catholic Standard and Times Publishing Company, The, 211 South Sixth street, Philadelphia, Pa.: Publication.
- Central Seventh-Day Adventist Publishing Association, Battle Creek, Mich.: Publication—Advent Review and Sabbath Herald.
- Century Company, The, Union Square, New York: The Century Magazine, St. Nicholas; original drawings and manuscripts. Paris, 1889, Grand prix.
- Chandler, A. D., 11 Warren street, New York City: Publication—North American Review.
- Chandler & Price Company, Cleveland, Ohio: Paper cutter.
- Chandler, Hannibal H., & Co., Chicago: Publication—The Farmer's Review.
- Chapple, Joe Mitchell, 71 Bedford street, Boston, Mass.: Publication—National Magazine.
- Chassaignac & Dyer, Drs., 163 University place, New Orleans, La.: Publication—New Orleans Medical and Surgical Journal.
- Chicago Horseman Newspaper Company, 358 Dearborn street, Chicago: Publication—The Horseman.
- Christian Publishing Association, Dayton, Ohio: Publication—Herald of Gospel Liberty.
- Church, W. C. & F. P., 93 Nassau street, New York City: Publication—United States Army and Navy Journal.
- Churchman Company, The, 47 Lafayette place, New York: Publication—The Churchman.
- Clark, Charles L., 10 Pacific avenue, Chicago: Publication—Grain Dealers' Journal.
- Clissold, H. R., 188 Madison street, Chicago: Publication—Bakers' Helper.
- Cobb, Benjamin F., 184 LaSalle street, Chicago: Publication—The Redford Review.
- Colby, Clara Bewick, Washington, D. C.: Publication—The Woman's Tribune.
- Cole, Frank B., Tacoma, Wash.: Publication—West Coast and Puget Sound Lumberman.
- Colliery Engineering Company, The, Scranton, Pa.: Publication—Science and Industry, Mines and Minerals.
- Columbia University, New York City: Publication—School of Mines Quarterly.
- Conant, William Cowper, 466 West One hundred and fifty-first street, New York City: Publications—Salvation, Modern Medical Science.

- Confectioners' Journal Publishing Company, 209 South Sixth street, Philadelphia, Pa.: Publication—Confectioners' Journal.
- Connecticut Magazine Company, Hartford, Conn.: Publication—Connecticut Magazine.
- Craig, E. H., 63 Beach street, New York City: Publication—Sewing Machine Times.
- Criterion Publishing Company, 13 Pacific avenue, Chicago: Publications—Mida's Criterion; Mida's Illustrated Magazine.
- Criterion Publishing Company, 156 Fifth avenue, New York City: Publication—Criterion.
- Crouse, J. N., D. D. S., 2231 Prairie avenue, Chicago: Publication—The Dental Digest.
- Curtis Publishing Company, The, 421 Arch street, Philadelphia, Pa.: Publication—The Ladies' Home Journal.
- Cycle Trade Publishing Company, Heed Building, Philadelphia, Pa.: Publication—Cycle and Automobile Trade Journal.
- Daily Drivers: Publication.
- De Castello, Rev. S. M., 888 South Kedzie avenue, Chicago: Publication—Krestansky Posel.
- Delano Publishing Company, The, T. H., 102 Chambers street, New York City: Publication—Tobacco.
- De Lestry, Edmund Louis, St. Paul, Minn.: Publication—De Lestry's Western Magazine.
- De Puy, Clarence C., 320 East Onondaga street, Syracuse, N. Y.: Publication—American Poultry Advance.
- Dexter Folder Company, Pearl River, N. Y.: Machines for folding books and magazines.
- Dexter, Marie L., 853 Carnegie Hall, New York City: Publication—The Parisian.
- Dixie Miller, Nashville, Tenn.: Publication.
- Dodd, Mead & Co., 149 Fifth avenue, New York City: Publication—The Bookman.
- Dominion Company, The, 334 Dearborn street, Chicago: Publication—Facts and Fiction.
- Dowst Brothers Company, 30 South Clinton street, Chicago: Publication—National Laundry Journal.
- Dunlap, John R., 122 Liberty street, New York: Publication—The Engineering Magazine.
- Dustin, William S., Dwight, Ill.: Publication—The Banner.
- Eastern Mennonite Conference, Schwenksville, Pa.: Publication—The Mennonite.
- Educational Publishing Company, 50 Bromfield street, Boston, Mass.: Publications—Popular Education and Primary Education.
- Educational Specialty Company, Cleveland, Ohio: The Chautauqua Literary File.
- Edwards, Dr. London B., Richmond, Va.: Publication—Virginia Medical Semi-Monthly.
- Electrical Review Publishing Company, 41 Park Row, New York City: Publication—Electrical Review.
- Electrical World and Engineer, 120 Liberty street, New York City: Publication.
- Engelhard, G. P., 358 Dearborn street, Chicago: Publication—Western Druggist.
- Engineering Magazine, 120 Liberty street, New York: Publication.
- Engineering Mechanics Publishing Company, Philadelphia, Pa.: Publication—Engineering Mechanics.
- Engineering News Publishing Company, 220 Broadway, New York: Publication—Engineering News and American Railway Journal.
- Epitomist Publishing Company, Indianapolis, Ind.: Publication—Agricultural Epitomist.
- Era Publishing Company, Chicago: Publication—Medical Era.
- Estes, Dana & Co., 208 Summer street, Boston, Mass.: Books, bookbinding.

Express Gazette, Cincinnati, Ohio: Publications.

Ezekiel, Herbert T., Richmond, Va.: Publication—The Bi-Monthly Guild.

Farm and Ranch Publishing Company, Dallas, Tex.: Publication—Farm and Ranch.

Farm Implement News Company, 701 Masonic Temple, Chicago: Publication—Farm Implement News.

Farmers' Voice, The, 334 Dearborn street, Chicago: Publication—The Farmers' Voice.

Fassett, Charles Wood, Sixth and Charles streets, St. Joseph, Mo.: Publications—American Medical Journalist, Medical Herald.

Fassett, Herbert S., 263 Washington Boulevard, Chicago: Publication—The Western Undertaker.

Fern Bulletin Company, Binghamton, N. Y.: Publication—The Fern Bulletin.

Finkel, B. F., Springfield Mo.: Publication—American Mathematical Monthly.

Fishing Gazette, 203 Broadway, New York: Publication.

Fitzgibbon-Clark, Mrs., St. Louis, Mo.: Publication—St. Louis and Canadian Photographer.

Forest and Stream Publishing Company, 346 Broadway, New York City: Publication—Forest and Stream.

Frank Leslie Publishing House, 143 Fifth avenue, New York City: Publication—Frank Leslie's Popular Monthly; original poster designs.

Frank, M. M., 506 Arch street, Philadelphia, Pa.: Publication—Textile Colorist.

Fuller, E. Chubb, Indianapolis, Ind.: Publication—The Practical Dairyman.

Funk & Wagnalls Company, 30 Lafayette Place, New York City: Standard Dictionary and other works. Chicago, 1893, medal.

Gazette Publishing Company, Los Angeles, Cal.: Publication—Hotel Gazette and Outing News.

Geological Publishing Company, Minneapolis, Minn.: Publication—American Geologist.

Gibson, Joseph W., 757 Broadway, New York City: Publication—The Haberdasher.

Golden Rule Company, The, Boston, Mass.: Publication—Christian Endeavor World.

Goodman & Dickerson Company, 324 Dearborn street, Chicago: Publication—The Standard.

Green, Monte L., Cincinnati, Ohio: Publication—Spokesman of the Carriage Trade.

Griswold, Kate S., 227 Washington street, Boston, Mass.: Publication—Profitable Advertising and Art in Advertising.

Guild & Lord, 620 Atlantic avenue, Boston, Mass.: Publication—Textile World.

Haight, R. J., 334 Dearborn street, Chicago: Publication—The Monumental News.

Halloran, J. E., 330 Market street, San Francisco, Cal.: Publication—Mining and Scientific Press.

Harbison, Joseph L., 1113 Chestnut street, Philadelphia, Pa.: Publication—Table Talk.

Harvey, Thomas F., 218 Lasalle street, Chicago: Publication—International Confectioner.

Haynes, D. O., & Co., 396 Broadway, New York: Publications.

Heimstreet, E. B., Janesville, Wis.: Publication—Wisconsin Druggists' Exchange.

Holler, John, 31 Broad street, New York City: Publication—Dickerman's United States Treasury Counterfeit Detector.

Holzappel, G., Cleona, Lebanon County, Pa.: Publications—The Pulpit, The Preacher's Helper.

Home Science Publishing Company, The, 485 Tremont street, Boston, Mass.: Publication—American Kitchen Magazine.

Hotel Red Book and Directory Company, Grand Union Hotel, New York: Publication—Directory.

Housekeeper Corporation, The, 51 South Fourth street, Minneapolis, Minn.: Publication—The Housekeeper.

- Howe Addressing Company, 208 South Fourth street, Philadelphia, Pa.: Publications.
- Hubbard, Harland Page, 38 Times Building, New York: Publication—Hubbard's Newspaper and Bank Directory of the World.
- Hudson, Rev. Daniel E., Notre Dame, Ind.: Publication—The Ave Maria.
- Huebsch, D. A., & Co., 31 Rose street, New York: Publication—Huebsch's Year-book.
- Hughes, William, 7134 Wentworth avenue, Chicago: Publication—The Engraver and Electrotyper.
- Hunter Publishing Company, Oakpark, Ill.: Publication—The Star.
- Idea Publishing Company, The, 61 Essex street, Boston, Mass.: Publication—Boston Ideas.
- Inland Printer Company, The, 214 Monroe street, Chicago: Publication—The Inland Printer.
- Inland Publishing Company, 315 Dearborn street, Chicago: Publication—The Inland Architect.
- International Board of Women's Christian Association, 217 West Ormsby avenue, Louisville, Ky.: Publication—International Messenger.
- International Monthly, The, Burlington, Vt.: Publication.
- Iron and Steel Publishing Company, 40 Dearborn street, Chicago: Publication—Iron and Steel.
- Jenkins, William R., 851 Sixth avenue, New York City: Publications.
- Johns Hopkins Press, Baltimore, Md.: Books and periodicals on science, mathematics, philology, history, and politics.
- Johnson, I. S., & Co., 22 Customhouse street, Boston, Mass.: Publication—Farm-Poultry.
- Journal of Commerce Company, Fullerton street, St. Louis, Mo.: Publications—The St. Louis Lumberman, The Age of Steel.
- Judge Company, 110 Fifth avenue, New York City: Publications—Judge Library, Leslie's Weekly.
- Judge, E. J., 38 South Holliday street, Baltimore, Md.: Publication—The Trade.
- Juvenile Literature Publishing Company, Hydepark, Mass.: Publication—The Favorite.
- Kansas Farmer Company, Topeka, Kans.: Publication—Kansas Farmer.
- Katlinsky, A. L., 5930 South Park avenue, Chicago: "Mizrakh," a picture cut out of cardboard.
- Kealing, H. T., 631 Pine street, Philadelphia, Pa.: Publication—African Methodist Episcopal Church Review.
- Kellogg, Warren P., 5 Park square, Boston, Mass.: Publication—New England Magazine.
- Keppler & Schwarzmunn, New York City: Publication—Puck.
- Kilmer, H. E., Alliance, Ohio: Publication—Woman's Journal of Reformed Church.
- Kindergarten Literature Company, 203 Michigan avenue, Chicago: Publication—Kindergarten Magazine.
- Knauer, Erhard, 119 Fifth avenue, New York City: Publication—Manufactures of the United States.
- Knox, Frank H., Troy, N. Y.: Publication—City Government.
- Koenig, Adolph, M. D., 108 Ninth street, Pittsburg, Pa.: Publication—Pennsylvania Medical Journal.
- Langdon, Palmer H., 218 William street, New York City: Publication—The Aluminum World.
- Lasher & Osborne, Cincinnati, Ohio: Publication—Journal and Messenger.
- Latham Machinery Company, 197 South Canal street, Chicago: Monitor wire stitching and paging and numbering machines for books and pamphlets.
- Lea Bros. & Co., 706 Sansom street, Philadelphia, Pa.: Publication—American Journal of Medical Science.

- Leffingwell, Charles W., Chicago: Publication—The Living Church.
- Life Publishing Company, 19 West Thirty-first street, New York City: Publication—Life.
- Light of Truth Publishing Company, Columbus, Ohio: Publication—Light of Truth.
- Lippincott, J. B., Company, 720 Filbert street, Philadelphia, Pa.: Publications.
- Little, Brown & Co., 254 Washington street, Boston, Mass.: Books and illustrations.
- Living Age Company, The, 13½ Bromfield street, Boston, Mass.: Publication—The Living Age.
- Loeser's, Charles McK., Sons, 34 Reaver street, New York City: Publication—Bonfort's Wine and Spirit Circular.
- Lord & Thomas, Wabash and Randolph streets, Chicago: Publication—Directory of the American press.
- Lothrop Publishing Company, 530 Atlantic avenue, Boston, Mass.: Publications.
- Low, George P., 320 California street, San Francisco, Cal.: Publication—Journal of Electricity, Power and Gas.
- Lumber Trade Journal, 18 Broadway, New York: Publications.
- Lutheran Ministerium of New York, 12 State street, New York: Publication—Der Lutherische Herald.
- McCall, Irving G., & Dickson, J. A., 1526 Marquette Building, Chicago: Publication—Advertising Experience.
- McClure, The S. S. Company, 141 East Twenty-fifth street, New York: Publication—McClure's Magazine.
- McCormick & Gray, 67 Dearborn street, Chicago: Publication—The Interior.
- McCune, G. E., New Orleans, La.: Publication—The Morning Star.
- McGraw Publishing Company, 120 Liberty Street, New York: Publications—American Electrician and technical works.
- McKinley, William, Souvenir Committee, 1313 Walnut street, Philadelphia, Pa.—Naval and military history of the nation.
- Macmillan Company, The, 66 Fifth avenue, New York City: Publication—Science.
- Mallett, D. F., 89 Chambers street, New York City: Publication—Hardware Dealers' Magazine.
- Manufacturers' Record, Baltimore, Md.: Publications.
- Marine Record Publishing Company, Western Reserve Building, Cleveland, Ohio: Publication—The Marine Record.
- Marine Review Publishing Company, The, Cleveland, Ohio: Publication—Marine Review.
- Mason, Perry, & Co., Boston, Mass.: Publication—The Youth's Companion.
- Mason, Thomas, 414 East Pearl street, Cincinnati, Ohio: Publication—Western Tobacco Journal.
- Massachusetts Institute of Technology, Boston, Mass.: Publication—Technology Quarterly.
- Massachusetts New Church Union, 16 Arlington street, Boston, Mass.: Publication—The New Church Review.
- Mayers, Jacob, 21 Park Row, New York City: Publication—Butchers' Advocate.
- Meade, Nathaniel W., 430 Walnut street, Philadelphia, Pa.: Publication—Ladies' Home Magazine.
- Mensch, Paul, & Co., 92 LaSalle street, Chicago: Publication—Directory of Chicago Office Buildings, illustrated.
- Mercantile Adjuster Publishing Company, 150 Nassau street, New York: Publication—The Mercantile Adjuster.
- Merck & Co., 13 University place, New York: Publications—Merck's Report and Merck's Archives.
- Merriam, G. and C., Springfield, Mass.: Webster's International Dictionary of the English Language, and its abridgements.

- Meyer, C. F. G., 316 Clark avenue, St. Louis, Mo.: Publication—Meyer Brothers' Druggist.
- Meyer, Henry G., 100 William street, New York City: Publication—Engineering Record.
- Meyer, J. S., 57 Washington street, Chicago: Publication—Deaconess' Advocate.
- Michigan Artisan, Grand Rapids, Mich.: Pamphlet.
- Midland Publishing Company, St. Louis, Mo.: Publication—Farm Machinery.
- Miller, Mrs. L. K., Dayton, Ohio.: Publication—The Woman's Evangel.
- Miller Publishing Company, Minneapolis, Minn.: Publication—Northwestern Miller.
- Miner, E. N., 102 Fulton street, New York City: Publication—Typewriter and Phonographic World.
- Mitchell, John J., Company, 103 Fifth avenue, New York: Publication—Fashions for Tailors.
- Modern Miller Company, The, Third and Chestnut streets, St. Louis, Mo.: Publication—The Modern Miller.
- Montfort & Co., Cincinnati, Ohio: Publication—Herald and Presbyterian.
- Morse, T. Vernet, Fine Arts Building, Chicago: Publications—Arts for America; Art Study Pictures.
- Mowry, F. J., Rome, N. Y.: Publication—Harness Gazette.
- Muller, L., jr., Manhattan Building, Chicago: Publication—The Architectural Studies.
- Mumford, A. W., 203 Michigan avenue, Chicago: Publication—Birds of All Nature.
- Municipal Engineering Company, Indianapolis, Ind.: Publication—Municipal Engineering.
- Munn & Co., 361 Broadway, New York City: Publications—Scientific American and its various editions.
- Murphy, James Shields, Boston, Mass.: Publication—The Golfer.
- National Iron and Steel Publishing Company, Pittsburg, Pa.: Publication—American Manufacturer and Iron World.
- National Printing Company, 509 South Twelfth street, Omaha, Nebr.: Publication—Hospodar.
- National Railway Publication Company, The, 24 Park place, New York City: Publication—Travelers' Official Railway Guide.
- New England Publishing Company, 3 Somerset street, Boston, Mass.: Publication—Journal of Education.
- New York Daily Times, Park Row, New York City: Processes showing United States methods of producing a daily newspaper.
- New York Lumber Trade Journal, The, New York City: Publications—The New York Lumber Trade Journal.
- New York Musical Courier Company, 19 Union Square, New York City: Publication—Musical Courier.
- Nolan Publishing Company, Drexel Building, Philadelphia, Pa.: Publication—The Implement Age.
- Ohmann-Dumesnil, A. H., St. Louis, Mo.: Publication—St. Louis Medical and Surgical Journal.
- Olszewski, Anton, 924 Thirty-third street, Chicago: Publication—Lietuva.
- Orange Judd Company, 52 Lafayette place, New York City: Publication—American Agriculturist.
- Ormsby, F. E., 358 Dearborn street, Chicago: Publication—Planets and People.
- Outing Publishing Company, The, 239 Fifth avenue, New York City: Publication—Outing.
- Outlook Company, The, 287 Fourth avenue, New York City: Publication—The Outlook.
- Overland Monthly Publishing Company, San Francisco, Cal.: Publication—Overland Monthly.

- Pacific Press Publishing Company, Oakland, Cal.: Publications—Pacific Health Journal, etc.
- Paine, Cassius M., Milwaukee, Wis.: Publication—Whist.
- Palmer, Mrs. Lucia A., Yonkers, N. Y.: Books—Grecian Days, Oriental Days.
- Parkinson & Kengla, 1121 Sutter street, San Francisco, Cal.: Publication—Occidental Medical Times.
- Partridge, A. E., Seattle, Wash.: Publication—Washington Odd Fellows.
- Pasadena Exhibition Association, Pasadena, Cal.: France in American Magazines.
- Pathfinder Publishing Company, Akron, Ohio: Publication—The Pathfinder.
- Pettingill & Co., Boston, Mass.: Publication—National Newspaper Directory and Gazette.
- Phelps Publishing Company, Springfield, Mass.: Publication—Farm and Home.
- Philadelphia Board of Trade, Philadelphia, Pa.: Publication.
- Philadelphia College of Pharmacy, 145 North Tenth street, Philadelphia, Pa.: Publication—American Journal of Pharmacy.
- Photographic Times Publishing Association, The, New York City: Publication—The Photographic Times.
- Piano Manufacturers' Association, 113 Fourteenth street, New York: American Musical Club Directory.
- Poet-Lore Company, 16 Ashburton place, Boston, Mass.: Publication—Poet-Lore.
- Popular Science, 108 Fulton street, New York: Publications.
- Porter, Taylor & Co., Chicago: Publication—The National Builder.
- Potter-Kendall Company, The, Boston Mass.: Publication—The Nickel Magazine.
- Potter, W. W., Company, 91 Bedford avenue, Boston, Mass.: Publication—The National Magazine.
- Powell, Edwin C., Chatham, N. Y.: Publication—Fancier's Review and Fruit Grower.
- Price, Charles W., 41 Park Row, New York City: Publication—Electrical Review.
- Professional Photographer Publishing Company, 220 Washington street, Buffalo: Publications—Professional Photographer, and Process Review and Journal of Electrotyping.
- Progressive Age, The, 280 Broadway, New York: Publication.
- Publishers' Weekly, The, 59 Duane street, New York City: Periodicals and books of reference.
- Putnam, Eben, Danvers, Mass.: Publication—Putnam's Historical Magazine.
- Putnam, G. P.'s Sons, 29 West Twenty-third street, New York City: Publication—American Anthropologist.
- Railroad Gazette, The, 32 Park place, New York City: Publication—The Railroad Gazette.
- Railway Review, The, 1305 Manhattan Building, Chicago: Publication—Railway and Engineering Review.
- Rand, McNally & Co., Chicago: Publications—Bankers' Monthly and Directory. Educational text-books.
- Randall, T. A., & Co., Indianapolis, Ind.: Publication—The Clay Worker.
- Redding, W. E., 127 Duane street, New York City: Publication—Harness.
- Reinert Publishing Company, The, Denver, Colo.: Publication—Daily Mining Record.
- Reinnagel, G. H., 39 Cortlandt street, New York City: Publication—The Fireman's Herald.
- Retail Druggist, 37 Hodges Building, Detroit, Mich.: Publications.
- Review and Herald Publishing Company, Battle Creek, Mich.: Publications—Review and Herald, etc.
- Review of Reviews Company, The, 13 Astor place, New York City: Publication—Review of Reviews.
- Review Publishing and Printing Company, Walnut and Fourth streets, Philadelphia: Publication—American Exchange and Review.

- Rhodes, Bradford & Co., 78 William street, New York City: Publication—Bankers' Magazine.
- Rich, H. S., & Co., 177 La Salle street, Chicago: Publication—The Western Brewer.
- Ricketts, C. Lindsay, First National Bank Building, Chicago: Engrossed and illuminated addresses of congratulations, thanks, etc., in gold and colors.
- Ridenor & Jenks, Washington Post Building, Washington, D. C.: Publication—Army and Navy Register.
- Rodkinson, Michael L., 1332 Fifth avenue, New York City: Publication—New edition Babylonian Talmud.
- Rogers & Mason, Boston, Mass.: Publication—The Brickbuilder.
- Rollins, C. E., 161 La Salle street, Chicago: Publication—The Argus.
- Root, The A. I., Company, Medina, Ohio: Publication—Gleanings in Bee Culture.
- Rosback, Fred P., 60 South Canal street, Chicago: Wire-stitching machine for books and pamphlets.
- Rough Notes Company, The, Indianapolis, Ind.: Publication—Rough Notes.
- Rowell, George P., & Co., 10 Spruce street, New York City: Publication—Printers' Ink.
- Ryan, P. J., D. D., 211 South Sixth street, Philadelphia, Pa.: Publication—American Catholic Quarterly Review.
- Sanders, T. H., Publishing Company, 356 Dearborn street, Chicago: Publication—The Breeders' Gazette.
- Saunders, W. L., 26 Cortlandt street, New York City: Publication—Compressed Air.
- Seafert, William, 161 La Salle street, Chicago: Publication—Cement and Engineering News.
- Sheague, G. A., Cincinnati, Ohio: Publication—Express Gazette.
- Sherron, Charles B., Philadelphia, Pa.: Publication—Varnish.
- Shoe and Leather Reporter, New York City: Publications—Shoe and Leather Reporter; The Shoe Retailer.
- Shoe Trade Journal, 192 Fifth avenue, Chicago: Publication—Shoe Trade Journal.
- Short Story Publishing Company, 144 High street, Boston, Mass.: Publication—The Black Cat.
- Sibley Journal of Engineering, Ithaca, N. Y.: Publication—Sibley Journal of Engineering.
- Singer Manufacturing Company, The, 149 Broadway, New York: Machines for binding books and pamphlets.
- Small, Maynard & Company, 8 Beacon street, Boston, Mass.: Publications.
- Smalley, E. V., St. Paul, Minn.: Publication—Northwest Illustrated Monthly Magazine.
- Stager, Henry J., 938 Spring Garden street, Philadelphia, Pa.: Publication—Camp News.
- Starchroom Publishing Company, The, Cincinnati, Ohio: Publication—Starchroom Laundry Journal.
- Stern, Daniel, 69 Dearborn street, Chicago: Publication—American Artisan and Hardware Record.
- Stiggers, E. G., Washington, D. C.: Publication—Inventors' Age.
- Stone, Herbert S., & Co., Eldridge Court, Chicago: Publications.
- Street & Smith, 238 William street, New York City: Publication—Ainslee's Magazine.
- Street Railway Publishing Company, 120 Liberty street, New York City: Publications—Street Railway Journal; Street Railway Investments.
- Strong, Henry R., 514 Century Building, St. Louis, Mo.: Publication—National Druggist.
- Studer, Jacob H., 114 Fifth avenue, New York: Publication—Imperial quarto book.
- Swedish Methodist Episcopal Book Concern, 152 Oak street, Chicago: Publication—The Herald (Sandebudet).

- Taltavall, John B., 253 Broadway, New York City: Publication—The Telegraph Age.
- Telephone Magazine, Marquette Building, Chicago: Publication.
- Terhune, W. L., 13 Columbia street, Boston, Mass: Publication—Boot and Shoe Recorder.
- Textile Publishing Company, The, 78 Walker street, New York City: Publication—The Dry Goods Economist.
- Thirkeld, Rev. L. A., 6 South Calvert street, Baltimore, Md.: Publication—Baltimore Methodist.
- Thompson Publishing Company, Chicago: Publications—The Confectioner and the Baker.
- Town Topics Publishing Company, 208 Fifth avenue, New York City: Publications—Town Topics, and Tales from Town Topics.
- Trade Journal, Richmond, Va.: Publication.
- Trades Weekly Company, The, 65 Nassau street, New York City: Publications—Jewelers' Weekly, and Clothiers' and Haberdashers' Weekly.
- Universal Peace Union, 219 Chestnut street, Philadelphia, Pa.: Publication—Peacemaker and Court Arbitration.
- United States Industrial Publishing Company, 31 State street, New York City: Publications.
- United States Trade Mark Association, The, 34 Nassau street, New York City: Trademarks, etc.
- University of Wisconsin, Madison, Wis.: Publication—The Wisconsin Engineer.
- Van Oost, John W., 23 Union Square, New York City: Publication—The Art Amateur.
- Vegetarian Company, The, 78 Madison street, Chicago: Publication—The Vegetarian Magazine.
- Voigt, Henry E., Hamburg, Wis.: Publication—Der Gefluegel Zuechter.
- Von Klenner, Madam K. Evans, 40 Stuyvesant street, New York City: Vocal musical pamphlets.
- Ware Brothers, 1118 Market street, Philadelphia, Pa.: Publications—Carriage Monthly, Export Carriage.
- Wasson, B. S., & Co., 91 and 93 South Jefferson street, Chicago: Publication—Roadmaster and Foreman.
- Watchman Publishing Company, The, Tremont Temple, Boston, Mass.: Publication—The Watchman.
- Webster, Alice, and Pratt, Candace R., 325 Dearborn street, Chicago: Publication—The Household Realm.
- Werner, Edgar S., Publishing and Supply Company, 48 East Nineteenth street, New York: Publication—Werner's Magazine.
- West, Miss Bina M., Port Huron, Mich.: Publication—The Ladies' Review.
- Whitaker, George F., 36 Bromfield street, Boston, Mass.: Publication—Zion's Herald.
- White City Art Company, The, 315 Dearborn street, Chicago: Publication—Great Pictures.
- White, Frank B., Company, Fisher Building, Chicago: Publication—Agricultural Advertising.
- White, James, & Co., 177 Monroe street, Chicago: Sample book of printing and art papers.
- Wild, Edwin O., St. Joseph, Mo.: Publication—Journal of Commerce.
- Wiley, John, & Son, New York: Publications upon mineralogy and minerals.
- Wilkins, William E., 66 West Broadway, New York City: Publication—Merchants' Review.
- Williams, Edwin, 295 Adams street, Brooklyn, N. Y.: Publication—Harmony Evolved as an Exact Science.

- Williams, Thomas A., Takoma Park, D. C.: Publication—Asa Gray Bulletin.
- Willy, John, 325 Dearborn street, Chicago: Publication—The Hotel Monthly.
- Wise, Leo, & Co., Fifth avenue and Race street, Cincinnati: Publications—American Israelite and Die Deborah.
- Wisser, John P., Fortress Monroe, Va.: Publication—Journal of the United States Artillery.
- Woman's Board Home Missions Presbyterian Church, 156 Fifth avenue, New York City: Publication—Home Mission Monthly.
- Woman's Board of Foreign Missions Reformed Church in America, 25 East Twenty-second street, New York City: Publication—The Mission Gleaner.
- Woman's Christian Association of Philadelphia, Eighteenth and Arch streets, Philadelphia, Pa.: Publication—Faith and Works.
- Woman's Medical Journal, The, 311 Superior street, Toledo, Ohio: Publication devoted to the science of medicine.
- Wonderly, Mrs. A., Lyons, Kans.: Publication—Weavers' Herald.
- Wood, Lovett M., Seattle, Wash.: Publication—The Trade Register.
- Wood, William, & Co., 51 Fifth avenue, New York: Publications—Medical Record and Journal of Obstetrics.
- Woodward, T. R., 300 Dearborn street, Chicago: The National Engineer.
- World's Maritime News Company, The, 63 William street, New York City: Publication—New York Maritime Register.
- Yale Medical School, New Haven, Conn.: Publication—Yale Medical Journal.
- Yates, C. L., Rochester, N. Y.: Publication—The National Nurseryman.
- Young Churchman Company, The, Milwaukee, Wis.: Publication—Our Young People.

CLASS 14.—*Maps and apparatus for geography and cosmography. Topography.*

- California Paris Exposition Commission, San Francisco, Cal.: Relief maps of Yosemite Valley, California, and State of California.
- Central School Supply House, Atlas Block, Chicago: Relief map of the United States.
- Department of the Navy, U. S. A., Bureau of Equipment, Washington, D. C.: Model or relief map of the West Indies and Caribbean Sea.
- Lord & Thomas, Trude Building, Chicago, Ill.: Maps and charts illustrating newspaper and publishing industry in the United States.

CLASS 15.—*Instruments of precision. Coins and medals.*

APPLIANCES, PROCESSES, AND PRODUCTS.

- American Arithmometer Company, 2102 Washington street, St. Louis, Mo.: Automatic adding and registering machines.
- American Numismatic and Archaeological Society, The, 17 North Forty-third street, New York City: Coins and medals.
- American Optical Company, Southbridge, Mass.: Optical goods.
- Bay State Optical Company, Attleboro, Mass.: Optical goods and machines for brandt-same.
- Brandt-Dent Company, The, Watertown, Wis.: Automatic cash register.
- Brashear, John A., Allegheny City, Pa.: Scientific instruments.
- Brown & Sharpe Manufacturing Company, Providence, R. I.: Standard gauges, micrometer and vernier calipers, rules, try-squares, straightedges, index and surface plates, etc.
- Bureau of the Mint, U. S. A., Washington, D. C.: United States coin money. Medals issued by United States. Lafayette coin dollars and dies.

- Chambers, Inskip & Co., 88-90 Wabash avenue, Chicago: Ophthalmometer.
- Department of the Navy, U. S. A., Washington, D. C.: Medals voted by Congress to United States naval officers. Seal of the Navy Department carved in wood.
- Des Jardins, B. M., Hartford, Conn.: Labor-saving computing instruments. Automatic computing scales for commercial purposes.
- Edison, Thomas A., Orange, N. J.: Phonographs.
- Ferracute Machine Company, Bridgeton, N. J.: Presses, dies, and other machinery for the manufacture of all kinds of metal coins, medals, badges, etc.
- Hastings, Charles S., New Haven, Conn.: Isochromatic object glasses.
- Hygienic Optical Company, 1147 Broadway, New York: Optical goods.
- International Arithmachine Company, Roanoke Building, Chicago: Calculating machine.
- King, Julius, Optical Company, New York: Optical goods.
- Le Maitre Optical Company, New York: Optical goods and machines for making same.
- Lubin, Siegmund, 21 South Eighth street, Philadelphia, Pa.: Eye-testing apparatus.
- Manhattan Optical Company, New York: Spectacles.
- Mills Novelty Company, 23 South Jefferson street, Chicago: Automatic coin-operating machines.
- National Cash Register Company, Dayton, Ohio: Cash registers, adding details or totals, printing checks, etc.
- Rowland, Henry A., Baltimore, Md.: Diffraction gratings.
- Scripture, Edward W., 109 Elm street, New Haven, Conn.: Color-sense tester for detection of color-blindness and color weakness.
- Simmons, John, Company, New York: Optical goods.
- Spencer Optical Company, New York: Optical goods.
- Warner & Swasey, Cleveland, Ohio: Astronomical instruments.

CLASS 16.—*Medicine and surgery.*

- American Hard Rubber Company, Akron, Ohio: Special rubber parts of apparatus for correcting deformities of human body.
- Banning Orthopedic and Mechanical Therapeutic Company, Fort Wayne, Ind.: Appliances for correcting deformities and malpositions of the internal organs of the human trunk.
- Beck, E. S., New York City: A formal generator, with automatic diaphragm pressure valve.
- Bloom, J. D., M. D., New Orleans, La.: Glass bowl for preserving vaseline in sterile form.
- Boldt, H. J., M. D., New York City: General operating table.
- Brand, A. F., Brooklyn, N. Y.: Aseptic wheel stretcher.
- Clark, A. C., & Co., Masonic Temple, Chicago: Cuspidors for dentists' chairs.
- Clark, J. C., M. D., New York City: Apparatus for the sterilization of catgut by cumol.
- Cleveland, Clement, M. D., New York City: Gynecological operating table.
- Crescent Steel Company, Pittsburg, Pa.: Special steel parts of apparatus for correcting deformities of human body.
- Dental College, Philadelphia, Pa.: Models and specimens of work.
- Dental department, University of California, San Francisco: Models and specimens of work.
- Dental department, University of Pennsylvania, Philadelphia, Pa: Models and specimens of work.
- Dental department, Vanderbilt University, Nashville, Tenn.: Models and specimens of work.
- Dental department, Western Reserve University, Cleveland, Ohio: Models and specimens of work.

- Dental Surgery, College of, Chicago, Ill.: Models and specimens of work.
- Harvard Company, The, Canton, Ohio: Dental chairs, surgical chairs, and instrument cabinets.
- Invalid Chair Company, 701 Broadway, New York City: Invalid chairs.
- Jackson, Victor H., M. D., 240 Lenox avenue, New York: Orthodontia; models showing a system of correcting irregularities of the teeth and deformities of the jaws.
- Kelly, F. D., Peoria, Ill.: Prosthetic dentistry.
- Kelly, Howard, M. D., Baltimore, Md.: Endoscopic instruments for examining the rectum.
- Knopf, S. A., M. D., New York City: Pocket sputum flask for tuberculosis patients.
- Kny, Richard, New York City: Aseptic glass hospital washstands.
- Kny-Scheerer Company, The, 17 Park Row, New York City: Surgical operating theater-sterilizing laboratory, armarium chirurgicum, and sick-room supplies.
- Lagai, George, M. D., New York City: Apparatus and instruments. Preparations and specimens.
- Laplace, Ernest, Philadelphia, Pa.: Set of anesthesmosis forceps.
- Marks, A. A., 701 Broadway, New York City: Artificial limbs with rubber feet and hands. Surgical appliances, crutches, and invalid chairs; rubber hands and feet.
- Marks, George E., 701 Broadway, New York City: Knife and fork combined.
- Marks, William L., 701 Broadway, New York City: Clamp buckles for surgical appliances.
- Meyer, John H., 117 West Forty-eighth street, New York City: Improved artificial teeth of continuous gum.
- Meyer, Willy, M. D., New York City: Storage battery for galvano-caustic operations.
- Miller Rubber Manufacturing Company, Akron, Ohio: Specialties in rubber for physicians and surgeons.
- Munger, E. E., M. D., Spencer, Iowa: Invalid and fracture bed.
- National Institute of Dental Pedagogy of America: Collective exhibit representing six dental colleges of the United States, with models and dental work.
- New England Crutch Company, 701 Broadway, New York City: Crutches.
- Ritter Dental Manufacturing Company, The, Rochester, N. Y.: Dental chairs and electrical appliances.
- Rorick Air Cushion Truss Company, The, 1224 F street, NW., Washington, D. C.: Air cushions, trusses, and abdominal supports.
- Seabury & Johnson, 59-61 Maiden Lane, New York City: Medicinal and surgical plasters, surgical dressings and specialties.
- Sibley, Gideon, 1214 Filbert street, Philadelphia, Pa.: Dental instruments, appliances, and supplies. Dental chairs.

CLASS 17.—*Musical instruments.*

MATERIALS, PROCESSES, AND PRODUCTS.

- Adek Manufacturing Company, 121 West Forty-second street, New York: Self-playing pianos and attachments.
- American Felt Company, The, Dolgeville, N. Y.: Felt for musical instruments.
- American Graphophone Company, Bridgeport, Conn.: Graphophones and supplies.
- American Steel and Wire Company, Worcester, Mass.: Piano and other musical-instrument steel wire.
- Art Joinery, The (Charles Dannenfelser), Cincinnati, Ohio: Workmanship in wood.
- Baldwin, D. H., & Co., Cincinnati, Ohio: Model of piano factory, showing inside and outside views, statistics, etc.
- Baldwin Piano Company, The, Cincinnati, Ohio: Concert grand pianos; grand and upright pianos. Parts used in piano construction; sections of cases; samples of woods.

- Barnhorn, Clement J., Cincinnati, Ohio: Design and carving of Baldwin upright piano.
- Bohmann, Joseph, Chicago, Ill.: Stringed and vibrating instruments.
- Brown & Patterson, Brooklyn, N. Y.: Piano plates.
- Burton, C. H., & Co. Cincinnati, Ohio: Veneers and cabinet woods used in construction of pianos and organs.
- Chicago Brass Company, Chicago: Reeds and reed boards for cabinet organs.
- Columbia Phonograph Company, 143 Broadway, New York: Complete series of graphophones, phonographs, records, etc.
- Comstock, Cheney & Co., Ivoryton, Conn: Upright piano action, keys, and keyboard.
- Consalvi, Icilio, 5 Garden Court, Boston, Mass.: Banjo consisting of 39,987 pieces.
- Elnzer & Anderson, Cincinnati, Ohio: Plans and specifications of Baldwin piano factory buildings.
- Flagg Manufacturing Co., 110 Lincoln street, Boston, Mass.: Zithers and harps.
- Fry, William H., Cincinnati, Ohio: Carving on Baldwin pianofortes.
- Guerin, P. E., New York City: Gilt and bronze ornaments for upright-piano cases.
- Hall, Thomas J., Cincinnati, Ohio: Joinery in construction of grand-piano cases.
- Hamilton Organ Company, The, Chicago, Ill: Reed organs and upright pianos.
- Kelly, The O. S., Company, Springfield, Ohio: Baldwin upright-piano plate casting.
- Kendall, Charles B., Boston, Mass.: Automatic banjos.
- Kerr, Clarence E., Cincinnati, Ohio: Workmanship in grand and upright piano sounding boards.
- Ludwig & Co., New York City: Pianos and self-playing attachments for same.
- Macy, John W., Cincinnati, Ohio: Scheme of construction for the Baldwin pianos.
- National Musical String Company, New York City: Strings for musical instruments.
- Mannello, Angelo, 680 Eagle avenue, New York City: Mandolins and guitars.
- Moran, Horace, New York City: Original design of case for upright piano.
- Piano and Organ Supply Company, Chicago: Keyboards for organs.
- Pratt, Reed & Co., Deep River, Conn.: Three sets of piano keys.
- Reindahl, Knute, 553 North Caroline street, Chicago: Violins.
- Shriver, T., & Co., New York City: Baldwin grand-piano plate casting.
- Sorenson, Andrew J., Chicago: Design for cabinet organ and scheme of construction for case work.
- Staib-Abendschein Company, The, New York City: Three actions for upright pianos and model.
- Strauch Brothers, New York City: Upright-pianoforte action and keys.
- Wickham, Chapman & Co., Springfield, Ohio: Iron plate for upright piano

CLASS 18.—*Theatrical appliances and equipment.*

- Andrews, The A. H., Company, 300 Wabash avenue, Chicago: Opera chairs.
- Byron, Joseph, 1286 Broadway, New York: Flash-light photographic scenes in American theaters.
- Chicago Auditorium Association, Chicago, Ill.: Exterior and interior views of the Auditorium Opera House.

GROUP IV.—MACHINERY.

CLASS 19.—*Steam engines.*

- Advance Packing and Supply Company, Chicago: Gum core packing.
- Ambler Asbestos Air Cell Covering Company, New York City: Boiler and pipe covering.
- American Injector Company, Detroit, Mich.: Injector.
- American Steam Gauge Company, Boston, Mass.: Steam-engine indicator.

- American Steam Packing Company, Boston, Mass.: Steam packing.
- Ashton Valve Company, The, 271 Franklin street, Boston, Mass.: Valves for boilers, pumps, and engines; safety and relief valves; pressure and vacuum gauges.
- Ball Engine Company, The, Erie, Pa.: Automatic steam engine for electric-light and power service.
- Blake, George F., Manufacturing Company, New York City: Steam pumps.
- Bowen Manufacturing Company, Auburn, N. Y.: Dust-proof oil cups.
- Brandt, Randolph, 38 Cortlandt street, New York: Packing for steam engines; jackets for boilers.
- Burt Manufacturing Company, Akron, Ohio: Purifiers and filters for lubricating oils.
- Canfield Manufacturing Company, The, Philadelphia, Pa.: Spiral and ring packing.
- Chesterton, A. W., & Co., Boston, Mass.: Steam packing.
- Cleveland Rubber Works, Cleveland, Ohio: Steam hose.
- Clonbrock Steam Boiler Company, Brooklyn, N. Y.: Steam boilers, vertical water-tube type.
- Coale Muffler and Safety Valve Company, Baltimore, Md.: Combined pop valve and muffler.
- Crandall Packing Company, Palmyra, N. Y.: Packing.
- Crane Company, Chicago: Brass and iron valves and fittings, screwed and flanged, for wrought-iron pipe, for all pressures of steam, gas, or water; steam and gas fitters' tools, engine trimmings, etc.
- De Rycke, Joseph, New York City: Steam separators.
- Detroit Lubricator Company, Detroit, Mich.: Apparatus for lubricating steam engines; "Detroit" sight-feed lubricator.
- Direct Separator Company, Syracuse, N. Y.: Steam separator.
- Dixon, Joseph, Crucible Company, Jersey City, N. J.: Lubricating graphite.
- Eagle Oil and Supply Company, Boston, Mass.: Ring packing.
- Fiske Brothers Refining Company, New York: Lubricating oils for steam engines and all kinds of machinery.
- Forbes, W. D., & Co., Hoboken, N. J.: Vertical type steam engines. One engine of 25 horsepower to be in operation direct connected to generator of Bullock Electric Manufacturing Company.
- Ford, Thomas P., New York City: Regulator valve, water valve.
- Fort Wayne Safety Valve Company, Fort Wayne, Ind.: Safety valve.
- Foster Engineering Company, Newark, N. J.: Valves.
- Goodsell Packing Company, Chicago: Rubber-back packing, flax and stitched packing for engines and steam pumps.
- Hayden & Derby Manufacturing Company, New York City: Metropolitan injectors.
- Higbee Joint Company, Philadelphia, Pa.: Pipe joints.
- Homestead Valve Manufacturing Company, Homestead, Pa.: Patent three-way cocks.
- Hoyt Metal Company, St. Louis, Mo.: Metallic packing.
- Hubbard & Co., Buffalo, N. Y.: Phoenix flue cleaner.
- Ingersoll-Sergeant Drill Company, New York City: Regulators and governors for steam engines.
- Johns, H. W., Manufacturing Company, New York: Asbestos covering for steam pipes.
- Kennedy Valve Manufacturing Company, The, New York City: Globe and check valves.
- Keystone Engineering and Manufacturing Company, Philadelphia, Pa.: Steam separator.
- Lackawanna Lubricator and Manufacturing Company, Scranton, Pa.: Grease cups.
- Lee Injector Manufacturing Company, The, Detroit, Mich.: Injectors for boiler feeding.
- Leonard & Ellis, New York: Lubricating oils for engines and machines.

- Locke Regulator Company, Salem, Mass.: Pump governing and reducing valves.
- Lunkenheimer Company, The, Cincinnati, Ohio: Brass and iron engineering appliances—valves, cocks, whistles, water gauges, injectors, and lubricating devices.
- McDondland, George T., Brooklyn, N. Y.: Steam gasket.
- Mosher, Charles D., New York City: Steam separator and grease extractor.
- Nathan Manufacturing Company, New York: Lubricators.
- New Bedford Boiler and Machine Company, New Bedford, Mass.: Boiler stop valves.
- Oil Well Supply Company, Pittsburg, Pa.: Portable boilers and engines, valves, and joints.
- Orvis & Hawkes, Chicago: Model of improved boiler furnace.
- Peerless Rubber Manufacturing Company, New York City: Steam packing and hose.
- Reid Manufacturing Company, Erie, Pa.: Patent oil cups.
- Restein, Clement & Co., Philadelphia, Pa.: Asbestos diagonal packing.
- Robins Conveying Belt Company, Park Row Buildings, New York City: Conveying machinery for feeding boilers and coal pockets; loading vessels and railroad cars.
- Schaffer & Budenberg, Brooklyn, N. Y.: Calorimeter.
- Sellers, William, & Co., Incorporated, Philadelphia, Pa.: Self-acting injector.
- Sherwood Manufacturing Company, Buffalo, N. Y.: Automatic injector, double-tube injector.
- Smoothon Manufacturing Company, Jersey City, N. J.: Compound for repairing boilers and pipes.
- Taunton Locomotive Manufacturing Company, Taunton, Mass.: Feed-water heater.
- Thorpe, Platt & Co., New York: Geipel's patent steam trap.
- United States Metallic Packing Company, Philadelphia, Pa.: Metallic packing.
- Vacuum Oil Company, Rochester, N. Y.: Lubricating oil for steam engines and machinery.
- Walworth Manufacturing Company, 14 Oliver street, Boston, Mass.: Valves, cocks, joints, piping, etc.
- Watson, N. A., Erie, Pa.: Injector.
- Watt's, John M., Sons, New York City: Packing grease and metal polish.
- Welsh Packing Company, Philadelphia, Pa.: Combination gasket.
- Wheeler Condenser and Engineering Company, 120 Liberty street, New York: Feed-water heaters, pumps, and condensers.
- Wilkinson & Co., Boston, Mass.: Oil cups.
- Winkley, F. D., Madison, Wis.: Dust-proof oil-hole covers.

CLASS 20.—*Various motors.*

- Ingersoll-Sergeant Drill Company, New York City: Engines and motors operated by compressed air.
- Meitz & Weiss, 128 Mott street, New York City: Oil engine operated by crude or volatile oils.
- Pelton Water Wheel Company, San Francisco, Cal.: Water wheels.
- Rider-Ericsson Engine Company, 22 Cortlandt street, New York: Hot-air engines.
- Smith, S. Morgan, Company, York, Pa.: Hydraulic motors, turbines for horizontal and vertical shafts.

CLASS 21.—*General machinery.*

- Allington & Curtis Company, Boston, Mass.: Dust collector and exhaust piping.
- Batcheller Pneumatic Tube Company, New York City: Air compressors and pipes.
- Pneumatic transmission applicable to mail, express, and freight.
- Bilgram, Hugo, Philadelphia, Pa.: Fine bevel gears.
- Bristol Company, The, Waterbury, Conn.: Special recording pressure gauges.
- Chapman Valve Manufacturing Company, Indian Orchard, Mass.: Valves and hydrants.

- Chicago Rawhide Manufacturing Company, Chicago: Rawhide pinions.
- Christensen Engineering Company, Milwaukee, Wis.: Portable automatic air compressor.
- Crane Company, Chicago: Water pipes, valves, and accessories.
- Cresson, George V., Company, Philadelphia, Pa.: Power-transmitting machinery, shafting, pedestals, etc.
- Dresser, S. R., Bradford, Pa.: Piping, joints, and accessories.
- Durant, Walter N., Milwaukee, Wis.: Automatic revolution counting device.
- Fisher Governor Company, Marshalltown, Iowa; Pump governors and reducing valves.
- Ford, Thomas P., New York City: Pump regulating and reducing valve.
- Graber, H. S., St. Louis, Mo.: Automatic water gauge.
- Greenwood, Oliver K., Baltimore, Md.: Antifriction metal for bearings.
- Henderer's, A. L., Sons, Wilmington, Del.: Hydraulic jacks.
- Hollands Manufacturing Company, Erie, Pa.: Pipe cutters.
- Horsburgh & Scott, Cleveland, Ohio: Rawhide gears.
- Hoyt Metal Company, St. Louis, Mo.: Special "white metal" for bearings.
- Ingersoll-Sergeant Drill Company, New York City: Air and gas compressors, motors, regulators, and receiver intercoolers.
- Jeffrey Manufacturing Company, Columbus, Ohio: Conveying and elevating machinery.
- Kennedy Valve Company, New York City: Water valves.
- Lippencott Steam Specialty Company, New York City: Steam indicators.
- Locke Regulator Company, Salem, Mass.: Stop governor for steam engines.
- Ludlow Valve Manufacturing Company, The, Troy, N. Y.: Water valves, hydrants, and accessories.
- Monarch Governor and Machine Company, Indianapolis, Ind.: Governor for steam engine.
- Monarch Manufacturing Company, The, Waterbury, Conn.: Device for speed limits on engines.
- Neptune Meter Company, 253 Broadway, New York City: Water meters.
- New Process Rawhide Company, Syracuse, N. Y.: Pinions in rawhide.
- Oil Well Supply Company, Pittsburg, Pa.: Brass and iron fittings for steam, gas, water, and oil pipes.
- Olson, Tinius & Co., Philadelphia, Pa.: Testing machines, micrometer, measuring instruments, and viscosimeters.
- Rand Drill Company, New York City: Air compressors and accessories.
- Reeves Pulley Company, Columbus, Ind.: Power-transmitting devices. Wood split pulleys, clutches, speed-varying countershafts.
- Rice Gear Company, Hartford, Conn.: Gears.
- Robins Conveying Belt Company, Park Row buildings, New York City: Conveying apparatus for coal, ore, etc.
- Roots, The P. H. & F. M., Company, Connersville, Ind.: Positive pressure blower motor.
- Schaffer & Budenberg, New York: Carpenter calorimeter.
- Schieren, Charles A., & Co., 47-51 Ferry street, New York: Oak-tanned leather, finished croutons, beltings, butts, valve leather, lace leather.
- Stillwell-Bierce & Smith-Vaile Company, The, Dayton, Ohio: Electrically driven triplex pump; jet condenser.
- Stow Manufacturing Company, Binghamton, N. Y.: Flexible shaft and lathe center grinders.
- Stuarts Foundry and Machine Works, New Hamburg, N. Y.: Compression wedge coupling.
- Sturtevant, B. F., & Co., Boston, Mass.: Exhaust fans and blowers.

Tabor Manufacturing Company, Elizabeth, N. J.: Stop motion revolution counters.
 Thomson Meter Company, 79-83 Washington street, Brooklyn, N. Y.: The Lambert disk water meter, made entirely of bronze, for pipes one-half-inch to 6-inch diameter.

Torrey, H. S., 100 Broadway, New York: Special antifriction metal for bearings.

Trautvetter Brothers, Paterson, N. J.: Recording gauges.

Tripler Liquid Air Company, 121 West Eighty-ninth street, New York: System for liquefying air—processes and products.

Tyler, The, W. S., Company, Cleveland, Ohio: Passenger elevator cars in national pavilion.

Vacuum Oil Company, Rochester, N. Y.: Lubricators, oilers, dynamometers, and power-measuring devices, indicators.

Walworth Manufacturing Company, 14 Oliver street, Boston, Mass.: Water pipes and accessories.

Watson-Stillman Company, New York City: Hydraulic jack.

Worthington Pumping Engine Company, 120 Liberty street, New York City: Steam pumping machinery; water meters.

CLASS 22.—*Machine tools.*

Ace Machinery Company, Cleveland, Ohio: Machinery for forging, cutting, and heading bolts; for tapping nuts.

Almond, Thomas R., Brooklyn, N. Y.: Drill chucks.

American Machinery Company, Grand Rapids, Mich.: Machines, hand operated, for wood trimming.

American Tool and Machinery Company, Boston, Mass.: Brass finishing lathes and tools.

American Turret Lathe Works, Wilmington, Del.: Turret lathes for heavy metal working.

Armstrong Brothers Tool Company, Chicago: Tool holders.

Atkins, E. C., & Co., Indianapolis, Ind.: Saws, tools, and sawmill specialties.

Baker Brothers, Toledo, Ohio: Keyway cutters and drill presses.

Barnes, W. F. and John, Company, Rockford, Ill.: Upright drilling machines.

Becker-Brainerd Milling Machine Company, Hyde Park, Mass.: Milling machines.

Becker, John, Fitchburg, Mass.: Milling machines.

Bement, Miles & Co., Philadelphia, Pa.: Machine tools.

Bickford Drill and Tool Company, Cincinnati, Ohio: Radial drill and multiple gear cutter.

Bowsher, N. P., South Bend, Ind.: Balancing ways for balancing revolving parts of machines.

Bradford Mill Company, Cincinnati, Ohio: Engine lathes.

Bridgeport Gun Implement Company, Bridgeport, Conn.: Augurs and bits.

Brown & Sharpe Manufacturing Company, Providence, R. I.: Milling, grinding, screw, and gear cutting machines, milling cutters, and other metal-working machine tools.

Brown, R. H., & Co., New Haven, Conn.: Reid chucks.

Buffalo Forge Company, Buffalo, N. Y.: Tool forge with blower.

Builders' Iron Foundry, Providence, R. I.: Grinding and polishing machinery.

Bullard Machine Tool Company, Bridgeport, Conn.: Boring and turning mills and turret machines.

Burr, John T., & Son, Brooklyn, N. Y.: Machine tools for metal working.

Carborundum Company, The, Niagara Falls, N. Y.: Grinding wheels.

Card, S. W., Manufacturing Company, Mansfield, Mass.: Taps and dies.

Carpenter, The J. M., Tap and Die Company, Pawtucket, R. I.: Taps and dies

- Chicago Pneumatic Tool Company, Chicago: Pneumatic hammers, drills, riveters, boring machines, flue welders, cutters, and rollers.
- Cincinnati Milling Machine Company, The, Cincinnati, Ohio: Milling machines, universal cutters, and tool grinders.
- Cincinnati Planer Company, Cincinnati, Ohio: Machine tools.
- Cleveland Twist Drill Company, Cleveland, Ohio: Twist drills, reamers, milling cutters, etc.
- Clough, Rockwell, Company, Alton, N. H.: Automatic machines for making wire corkscrews.
- Coes, L., Wrench Company, Worcester, Mass.: Monkey wrenches.
- Coffin & Leighton, Syracuse, N. Y.: Machinists' rules.
- Curtis & Curtis, Bridgeport, Conn.: Machines for pipe cutting and threading.
- Cushman Chuck Company, Hartford, Conn.: Lathe chucks.
- D'Amour & Littledale, New York City: Power drill presses.
- Deering Harvester Company, Chicago: Automatic machines for working in metal.
- Dock, Herman, Philadelphia, Pa.: Center grinding tool.
- Doig, William S., 54-56 Franklin street, Brooklyn, N. Y.: Box-nailing machines.
- Eames, G. T., & Co., Kalamazoo, Mich.: Chucks, drill-grinder.
- Fay, J. A., & Egan Company, Cincinnati, Ohio: Wood-working, wood-sawing, and planing machinery.
- Fellows Gear Shaper Company, Springfield, Vt.: Gear shapers and cutters.
- Ferracute Machine Company, Bridgeton, N. J.: Machines for sheet-metal working.
- Flather & Co., Nashua, N. H.: Machine tools.
- Flather Planer Company, The, Nashua, N. H.: Machine tools, lathes, planers, and shapers.
- Fosdick-Holloway Machine Tool Company, Cincinnati, Ohio: Machine tools.
- Foster, Walter H., New York City: Twist-drill grinder.
- Gay & Ward, Athol, Mass.: Milling-machine cutters.
- Geometric Drill Company, New Haven, Conn.: Drills.
- Gibson, A. C., Buffalo, N. Y.: Steel stamps for marking tools.
- Gisholt Machine Company, Madison, Wis.: Machine tools, turret machines.
- Gleason Tool Company, Rochester, N. Y.: Gear planers.
- Goodell-Pratt Company, Greenfield, Mass.: Hack-saw blades.
- Gorton, George, Machine Company, Racine, Wis.: Machine tools: disk grinders, universal surface grinders.
- Gould and Eberhart, Newark, N. J.: Machine tools, shapers, and millers.
- Grant Machine Tool Works, The, Cleveland, Ohio: Machine tools for working in metal.
- Healy, William P., 515 Chamber of Commerce, Chicago: Automatic box-making machinery.
- Hendey Machine Company, Torrington, Conn.: Machine tools for metal working.
- Hilles & Jones Company, Wilmington, Del.: Metal punching and shearing machines.
- Hill, Hugh, Tool Company, Anderson, Ind.: Tool holder.
- Hoggson & Pettis Manufacturing Company, New Haven, Conn.: Scroll chucks.
- Horton, E., & Son Company, Windsor Locks, Conn.: Chucks for brass finishers; milling, grinding, and screw machines; drills, lathes, boring mills.
- Ingersoll Milling Machine Company, The, Rockford, Ill.: Heavy milling machines.
- Jones & Lamson Machine Company, Springfield, Vt.: Flat turret lathe for rapid work, with turret tools.
- Kearney & Foot, New York: Files.
- Landis Tool Company, Waynesboro, Pa.: Universal grinding machines.
- Le Blond, R. K., Machine Tool Company, Cincinnati, Ohio: Engine lathes for metal working.
- Le Count, William G., South Norwalk, Conn.: Light steel tool.

- Leisenring, John, Manufacturing Company, Belmont and Elm avenues, Philadelphia, Pa.: Machine lead screws and portable key-seating machines.
- Leland & Faulconer Manufacturing Company, Detroit, Mich.: Lathe center grinder.
- Markt & Co., New York City: Machine tools for metal working.
- Morgan Machine Company, Rochester, N. Y.: Machinery for making wooden boxes.
- Morse Twist Drill and Machine Company, New Bedford, Mass.: Twist drills, reamers chucks, milling cutters, taps and dies, mandrels, sockets, and machinists' tools.
- Morton Manufacturing Company, Muskegon Heights, Mich.: Shaping machine.
- Mossberg & Granville Manufacturing Company, Providence, R. I.: Metal press and automatic drop.
- New Haven Manufacturing Company, New Haven, Conn.: Metal planer, lathes.
- Nicholson, W. H., & Co., Wilkesbarre, Pa.: Expanding mandrels.
- Niles Tool Works Company, Hamilton, Ohio: Machine tools, lathes, planers, boring mills, and special machines.
- Norton Emery Wheel Company, Worcester, Mass.: Emery and corundum wheels, emery-wheel machinery, and specialties.
- Oesterlein Machine Company, Cincinnati, Ohio: Milling machines for metal work.
- Oneida National Chuck Company, Oneida, N. Y.: Chucks.
- Oster Manufacturing Company, Cleveland, Ohio: Adjustable threading tools for pipes and bolts.
- Owen Machine Tool Company, Springfield, Ohio: Machine tools.
- Pearl, A. Y., Rochester, N. H.: Machine tools.
- Pearson Machine Company, Chicago: Machine tools for metal working.
- Perkins Machine Company, South Boston, Mass.: Machine tools.
- Pond Machine Tool Company, Hamilton, Ohio: Machine tools for metal working.
- Potter & Johnston Company, Pawtucket, R. I.: Machine tools for metal working.
- Pratt & Whitney Company, Hartford, Conn.: Machine tools for metal working, small tools, and standards.
- Pratt Chuck Company, The, Frankfort, N. Y.: Drill chucks.
- Prentice Brothers Company, Worcester, Mass.: Drilling machinery and engine lathes.
- Prentiss Vise Company, New York: Vises.
- Q. and C. Company, Chicago: Pneumatic tools and machines for metal cutting.
- Quint, A. D., Hartford, Conn.: Vertical turret drilling machine.
- Ransom, Perry, Oshkosh, Wis.: Grinding machine.
- Reece, E. F., & Co., Greenfield, Mass.: Taps and screw plates.
- Reed, F. E., Company, Worcester, Mass.: Power lathes for working in metal.
- Rice Gear Company, Hartford, Conn.: Gear-cutting machines.
- Richardson, C. F., & Son, Athol, Mass.: Machinist level and gauges.
- Rogers, J. M., Boat Gauge and Drill Works, Gloucester City, N. J.: Gauges for measuring work.
- Sackman, F. A., Cleveland, Ohio: Steel stamps for tool marking.
- Safety Emery Wheel Company, Springfield, Ohio: Tool-grinding machine.
- Saw Company, New York: Emery wheels.
- Sawyer Tool Company, Fitchburg, Mass.: Surface gauge.
- Simonds Manufacturing Company, Fitchburg, Mass.: Saws and machine knives of all kinds.
- Skinner Chuck Company, New Britain, Conn.: Chucks.
- Slocum, J. T., & Co., Providence, R. I.: Micrometer caliper.
- Smith, H. B., Machine Company, Smithville, N. J.: Various machines for wood working.
- Springfield Machine Tool Company, Springfield, Ohio: Power lathes for metal working.

- Springfield Manufacturing Company, Providence, R. I.: Special planer type-grinding machine.
- Standard Pneumatic Tool Company, Chicago: Air plant, pneumatic drills, hammers, flue rolling, reaming, tapping and boring machines, riveters, etc.
- Standard Tool Company, The, Cleveland, Ohio: Twist drills, reamers, milling cutters, chucks, mandrels, sockets.
- Starrett, The L. S., Company, Athol, Mass: Tools for machinists, carpenters, and draftsmen; micrometers, rules, dividers, calipers, hack saws, etc.
- Stiles & Parker Press Company, Brooklyn, N. Y.: Sheet-metal working machinery.
- Sussfeld, Lorsch & Company, 27-29 Maiden Lane, New York City: Machine tools for working in metal and wood.
- T. & B. Tool Company, New Bedford, Mass. (owned by Morse Twist Drill Company): Twist drills, taps, dies, milling cutters, reamers, etc.
- Trimont Manufacturing Company, Roxbury, Mass.: Pipe cutters and wrenches.
- Trump Brothers Machine Company, Wilmington, Del.: Lathe center grinder.
- Union Manufacturing Company, New Britain, Conn.: Chucks.
- Universal Machine Company, Providence, R. I.: Machine tools.
- Vanderbeck Tool Works, Hartford, Conn.: New dividing head.
- Vitrified Wheel Company, Westfield, Mass.: Emery and corundum wheels.
- Walcott, George D., & Son, Jackson, Mich.: Shaper for iron working.
- Walker, O. S., & Co., Worcester, Mass.: Magnetic chuck; a device for holding work to the chuck by magnetism.
- Warner & Swasey, Cleveland, Ohio: Machine tools for metal working.
- Washburn Shops of the Worcester Polytechnic Institute, Worcester, Mass.: Machine tools and educational exhibit.
- Waterbury Tool Company, Waterbury, Conn.: Patent ratchet hand drill.
- Watson & Stillman, New York: Hydraulic presses.
- Wells Brothers & Co., Greenfield, Mass.: Screw plates and taps.
- Westcott Chuck Company, Oneida, N. Y.: Chucks for iron-working machines.
- Western Manufacturing Company, Springfield, Ohio: Tool holders.
- Williams, David, Company, New York: Publication—The Iron Age.

GROUP V.—ELECTRICITY.

CLASS 23.—*Machines for generating and using electricity.*

- Advance Packing and Supply Company, Chicago: Asbestos gum core packing.
- American Commercial Rubber Company, Elizabeth, N. J.: Electric insulating tape.
- American Hard Fiber Company, New York City: Insulating material.
- American Woven Wire Brush Company, Peabody, Mass.: Woven-wire dynamo brushes.
- Anderson, Albert & J. M., Manufacturing Company, Massachusetts: Quick-break switches.
- Belknap Motor Company, Portland, Me.: Chapman voltage regulator.
- Billings & Spencer Company, The, Hartford, Conn.: Switches and fuses.
- Bullock Electric Manufacturing Company, Cincinnati, Ohio: Continuous-current dynamos, motors, and appliances.
- C. & C. Electric Company, Garwood, N. J.: Electric motor.
- Chase-Shawmut Company, Boston, Mass.: Switches and fuses.
- Circular Loom Company, Boston, Mass.: Insulating tube or conduit.
- Clark, James, jr., & Co., Louisville, Ky.: Electrically driven tool grinder; electric motor.
- Commercial Electric Company, Indianapolis, Ind.: Electric motor.
- Crocker-Wheeler Electric Company, New York City: Electric motor.

- Crouse-Hinds Electric Company, Syracuse, N. Y.: Special switch for switchboard ammeters.
- Crown Woven Wire Brush Company, Salem, Mass.: Woven-wire brushes for dynamos.
- Dixon, Joseph, Crucible Company, Jersey City, N. J.: Graphite brush for motors and dynamos.
- Eck Dynamo and Motor Works, Newark, N. J.: Small motors.
- Edison Manufacturing Company, Orange, N. J.: Motors for fans, batteries, and specialties.
- Eureka Tempered Copper Works, Northeast, Pa.: Dynamo brushes, commutators.
- Garton-Daniels Company, Keokuk, Iowa: Lightning arresters for railway circuits.
- General Equipment Company, Camden, N. J.: Automatic circuit breaker.
- Hartwig & Miller, Detroit, Mich.: Boring tool for electric wiring.
- Holmes Fibre Graphite Manufacturing Company, 51-55 Wakefield street, Germantown, Pa.: Dynamo brushes.
- Insulating Staple Saddle Company, Brockton, Mass.: Insulator.
- Iron Clad Resistance Company, Westfield, N. J.: Dynamo field rheostat.
- Jeffrey Manufacturing Company, The, Columbus, Ohio, 41 Dey street, New York: Electric and air power coal cutters, drills, electric locomotives. Chain belting-steel cable, elevating, conveying machinery.
- Jenney Electric Manufacturing Company, Indianapolis, Ind.: Motors.
- Johns, H. W., Manufacturing Company, New York: Nonarcing fuses for electric circuits; mica insulators for electric transmission lines.
- K. & W. Company, Pittsfield, Mass.: Dynamo brushes.
- Kester Electric Manufacturing Company, Chicago: Fuse wire, solder, etc.
- Lakon Transformer Company, Elkhart, Ind.: Alternating current transformers.
- Locke, Fred M., Victor, N. Y.: High-voltage insulators.
- Lorain Steel Company, Lorain, Ohio: Double railway equipment; electrical railway motors, controllers, and apparatus.
- Marshall, William, New York: Electrical condensers.
- Milwaukee Electric Company, Milwaukee, Wis.: Electric motor.
- Munsell, Eugene, & Co., New York: Micanite insulation for dynamos and motors.
- New Process Rawhide Company, Syracuse, N. Y.: Rawhide pinions.
- New York & Ohio Company, Warren, Ohio: Alternating-current stationary transformers.
- Ohio Electrical Specialty Company, Troy, Ohio: Woven-wire dynamo brushes.
- Otis Elevator Company, New York: Electrically operated passenger elevators; an escalator, electrically driven.
- Patrick, Carter & Wilkins, Philadelphia, Pa.: Switches, sockets.
- Partridge Carbon Works, Sandusky, Ohio: Carbon brushes for motors and dynamos. Self-lubricating dynamo brush.
- Philadelphia Electrical and Manufacturing Company, Philadelphia, Pa.: Quick-break electric switches.
- Pittsburg Transformer Company, Pittsburg, Pa.: Transformers.
- Shaw Electric Crane Company, The, Muskegon, Mich.: Electric traveling crane and appurtenances.
- Speer Carbon Company, St. Marys, Pa.: Carbon brushes for motors and dynamos.
- Sprague Electric Company, New York: Armored conduits.
- Standard Paint Company, New York: Insulating tape.
- Steward, D. M., Manufacturing Company, Chattanooga, Tenn.: Lava insulators.
- Stow Manufacturing Company, Binghamton, N. Y.: Multispeed electric drill. Center grinder for lathe.
- Thomas, R., & Sons Company, East Liverpool, Ohio: High-voltage insulators.
- Thresher Electric Company, Dayton, Ohio: Motors.

Triumph Electric Company, Cincinnati, Ohio: Electric clocks.
 Union Porcelain Works, Brooklyn, N. Y.: Hard porcelain insulators.
 Van Wagoner & Williams Hardware Company, Cleveland, Ohio: Commutator bars.
 Vulcanized Fibre Company, Wilmington, Del.: Vulcanized fiber for insulating purposes.
 Wagner Electric Manufacturing Company, St. Louis, Mo.: Alternating-current motors, converters, and accessories.
 Western Electric Company, Chicago, Ill.: Various apparatus for generating, transmitting, and using direct and alternating current. Safety appliances, etc.
 Ward Leonard Electric Company, Bronxville, N. Y.: Rheostats; controllers; theater dimmers; automatic circuit breakers; outlet boxes.
 Westinghouse Electric and Manufacturing Company, Pittsburg, Pa.: Electric motors.
 Wirt, Charles, & Co., Philadelphia, Pa.: Dynamo brushes and rheostats.
 Zindars & Hunt, New York City: Switches and meters.

CLASS 24.—*Electro-chemistry.*

Abbott Electric and Manufacturing Company, Cleveland, Ohio: Electric cigar lighter.
 Acheson, E. C., Niagara Falls, N. Y.: Primary battery containing graphitized carbon element; electrodes for electrolytic work.
 Edison Manufacturing Company, New York: Battery cells.
 Edison, Thomas A., jr., New York: Standard battery of 8 cells.
 Gordon Battery Company, New York: Fans, water rheostats, faradic coils, batteries.
 Gould Storage Battery Company, Depew, N. Y.: Storage cells.
 Leclanche Battery Company, New York: Batteries.
 Phelps Manufacturing Company, Elmwood, Ill.: Electrical supplies.
 Reliance Lamp Electric Company, New York: Electric safety lamp and storage battery.
 Roach, William, Manufacturing Company, New York City: Standard dry batteries.

CLASS 25.—*Electric lighting.*

Adams-Bagnall Electric Company, The, Cleveland, Ohio: Arc lamps.
 Almond, Thomas R., Brooklyn, N. Y.: Electric desk lamps.
 American Electric Novelty and Manufacturing Company, New York: Two electric motors.
 American Electric Specialty Company, New York: Direct reading ohmmeters.
 Anderson, H., Peekskill, N. Y.: Hand magnet winder.
 Baker & Fox, Brooklyn, N. Y.: Focusing arc lamps.
 Bristol Company, Waterbury, Conn.: Recording volt meters and ammeters.
 Buckeye Electric Company, Cleveland, Ohio: Incandescent lamps.
 Chicago Edison Company, Chicago, Ill.: System of records and accounts for central stations.
 Chicago Fuse Wire and Manufacturing Company, Chicago: Fuse wire and fuse links.
 Columbia Incandescent Lamp Company, St. Louis, Mo.: Incandescent lamps.
 Dale Electric Company, New York: Electric sign letter.
 Electric Motor and Equipment Company, Newark, N. J.: Portable photometer, with spring rotator.
 Frink, I. P., New York: Electric fixtures and reflectors.
 General Electric Company, Schenectady, New York: Illustrations, models, and methods; views of apparatus; models made to scale of factories.
 Goehst, Henry, Chicago, Ill.: Incandescent lamp shades.
 Hardy Lamp Company, Pittsfield, Mass.: Incandescent lamps.
 Hart & Hageman Manufacturing Company, Hartford, Conn.: Snap switches.
 Hartwig & Miller, Detroit, Mich.: Boring tool for electric wiring.

- Hecla Iron Works, Brooklyn, N. Y.: Special ornamental arc-lamp posts, with accompanying post for use in connecting with railings.
- Helios-Upton Company, Peabody, Mass.: Various types of arc lamps for use on continuous and alternating current; carbons; rheostats and special converters.
- Holophane Glass Company, New York: Prism glass globes and shades for artificial lighting. Holophane patents.
- Huebel & Manger, Brooklyn, N. Y.: Electric door bells.
- Incandescent Electric Light Manipulator Company, The, Boston, Mass.: Incandescent bulb renewer and cleaner.
- Inglis, William, Wire and Iron Works, Detroit, Mich.: Wire lamp guards for incandescent lamps.
- Kinsman, F. E., New York City: Desk lamps.
- Lynn Incandescent Lamp Company, Lynn, Mass.: Incandescent lamps.
- McLeod, Ward & Co., New York: Desk lamps.
- Malcolmson, Charles T., Chicago, Ill.: Design for electric arc lamp post and accessories.
- Meyrowitz, E. B., New York: Special lamp socket and current connector.
- National Carbon Company, Cleveland, Ohio: Arc-light carbons.
- New York and Ohio Company, Warren, Ohio: Incandescent lamps.
- Oxley & Enos, Thirty-fifth street and Fifth avenue, New York City: Special electrical chandeliers.
- Paiste, H. T., Company, Philadelphia, Pa.: Porcelain sockets, cut-outs, switches, etc.
- Pass & Seymour, Syracuse, N. Y.: Porcelain cut-outs and lamp sockets.
- Perkins Switch Manufacturing Company: Rosette and switch.
- Speer Carbon Company, St. Marys, Pa.: Carbons for arc lamps.
- Syracuse Electric Instrument Company, Syracuse, N. Y.: Voltmeters.
- Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Globes, chimneys, and shades for electric lighting.
- Toerring, C. J., Company, Philadelphia, Pa.: Arc lamps for continuous and alternating currents.
- United States Carbon Company, The, Cleveland, Ohio: Cored carbons for arc lamps.
- Vought, M. I., La Crosse, Wis.: Two-ball adjuster for incandescent lamps.
- Washington Carbon Company, Washington, Pa.: Carbons for arc lamps.
- West, H. S., Chicago, Ill.: Insulated ceiling plate for arc lamps.
- Western Electric Company, Chicago: Arc lamps for both continuous and alternating current; incandescent lamps; special applications.
- White, O. C., Company, The, Worcester, Mass.: Adjustable electric-light fixtures.

CLASS 26.—*Telegraphy and telephony.*

- American Electric Telephone Company, Chicago, Ill.: Universal and express switchboards for telephones.
- American Steel and Wire Company, Worcester, Mass.: Samples of telephone and telegraph electrical and power wires and cables.
- American Wireless Telegraph Company, Milwaukee, Wis.: System of wireless telegraphy.
- Anderson, H., Peekskill, N. Y.: Hand magnet winder.
- Dicke Tool Company, Downers Grove, Ill.: Workmen's tools for aerial telephone, telegraph, and electric light wires.
- Farr Telephone and Construction Supply Company, Chicago: Telephones.
- Foot, Pierson & Co., New York: Combination telephone; lightning arresters.
- Hertzog Teleseme Company, New York: New system annunciators and hotel outfits.
- Huebel & Manger Manufacturing Company, Brooklyn, N. Y.: Electric bells.
- Insulating Saddle Staple Company, Brockton, Mass.: Insulated staples.
- International Cable Directory Company, 30 Broad street, New York: Systematic code of telegraphing.

- Klein, Mathias & Son, Chicago: Tools and appliances for installing overhead and submarine conductors.
- Patrick, Carter & Wilkins, Philadelphia, Pa.: House goods.
- Pennsylvania Electric Company, Marietta, Pa.: Telephones.
- Roebbling's, John A., Sons Company, Trenton, N. J.: Bare and insulated wire and underground electrical cables.
- Rowland Multiplex Telegraphic Company, 100 South Gay street, Baltimore, Md.: Multiplex synchronous telegraphy; an octoplex printing telegraph, transmitters, and receivers. Other multiplex forms of telegraphy. Devices to show operation of synchronism; maps, diagrams, photographs.
- Safety Insulated Wire and Cable Company, 223-239 West Twenty-eighth street, New York: Insulated wire.
- Sprague Electric Company, New York City: Armored conduits.
- Standard Telephone and Electric Company, Madison, Wis.: Standard wall telephone set.
- Stromberg-Carlson Telephone Manufacturing Company, Chicago: Telephone.
- Telephone Manufacturing Company, Sumter, S. C.: Telephones.
- Viaduct Manufacturing Company, Baltimore, Md.: Portable telephone set.
- Western Electric Company, Chicago: Apparatus and instruments for telephone and telegraph; telegraph relays, sounders, etc.
- Western Telephone Construction Company, 250 South Clinton street, Chicago: Telephones and apparatus for telephone exchanges, switchboards, annunciators, connectors, etc.
- Williams-Abbott Electric Company, Cleveland, Ohio: Magnets and telephone transmitters.
- Williams Electric Company, Cleveland, Ohio: Telephones.

CLASS 27.—*Various applications of electricity.*

- Abbott Electric and Manufacturing Company, Cleveland, Ohio: Electric cigar lighter.
- American Electrical Heater Company, Detroit, Mich.: Electric heaters and soldering irons.
- American Electrical Specialty Company, New York: Electrical test instruments.
- Bristol Company, The, Waterbury, Conn.: Recording volt and ampere meters.
- Dale Electric Company, New York: Electric fixtures.
- Eldridge Electric Manufacturing Company, Springfield, Mass.: Voltmeter.
- Gold Car Heating Company, New York: Apparatus for heating by electricity.
- Gordon Battery Company, New York: Electro-medical apparatus.
- Hadaway Electric Heating and Engineering Company, New York: Small electric stoves and heaters.
- Herzog Teleseme Company, New York: Variable signaling apparatus for hotel rooms; electro-chemical annunciators; telephone signals, adjuncts, and switchboards; fairy annunciators. Fortification, naval, ship, mining, railway, coast guard, postal, telephone, and telegraph installations.
- Iron Clad Resistance Company, Westfield N. J.: Field rheostats.
- Johns, H. W., Manufacturing Company, New York: Electric heaters.
- McCay Engineering Company, Baltimore, Md.: Electric heating apparatus.
- McGraw Publishing Company, 26 Cortlandt street, New York: Bound volumes and current numbers of electrical periodicals.
- Marshall, William, New York: Electrical condensers.
- Meyrowitz, E. B., New York: Electro-magnet for abstracting metallic substances from the human eye.
- Norton Electrical Instrument Company, Manchester, Conn.: Electrical measuring instruments.
- Queen & Co., Philadelphia, Pa.: Scientific apparatus—measuring instruments, voltmeters, ammeters, various standards for alternating and continuous currents.

Sempire Clock Company, St. Louis, Mo.: Electrical clocks.

United Electric Heating Company, Detroit, Mich.: Electric heating apparatus.

Wagner Electric Manufacturing Company, St. Louis, Mo.: Electric measuring instruments.

Weston Electrical Instrument Company, Newark, N. J.: Scientific apparatus—measuring instruments, voltmeters, ammeters, various standards for alternating and continuous currents.

GROUP VI.—CIVIL ENGINEERING—TRANSPORTATION.

CLASS 28.—*Materials, equipment, and processes relating to civil engineering.*

American Car Sprinkler Company, Worcester, Mass.: Photographs of street-sprinkling machinery.

American Hoist and Derrick Company, St. Paul, Minn.: Photograph of hoisting machine.

American Pneumatic Service Company, Boston, Mass.: A system of pneumatic carriers for post and package delivery.

Barr, J. Carrol, Morgantown, W. Va.: Photographs of engineering work.

Bates, Lindon W., Chicago: Model of a hydraulic dredge.

Bradley Pulverizer Company, Boston, Mass.: Photographs of cement machinery.

Broadway Chambers, The, New York: A collective exhibit illustrating the materials and construction of an American steel office building in New York City. Contributors: Bradley & Currier Company, New York, interior woodwork; Brooklyn Electric Equipment Company, Brooklyn, N. Y., electric lighting; Bullock Electric Company, Cincinnati, Ohio, electric generators; Byrne, Thomas J., New York City, plumbing; Carnegie Steel Company, Pittsburg, Pa., steel frame; Clonbrock Steam Boiler Company, Brooklyn, N. Y., boilers and fittings; Empire City Marble Company, New York, marble; Fuller, George A., Company, New York City, builders' models; Gilbert, Charles, New York City and St. Paul, Minn., architect; Hecla Iron Works, Brooklyn, N. Y., iron supplies; Otis Elevator Company, New York City, elevators; Payne Engineering Company, New York, engines; Peirce, John, New York City, granite; Perth Amboy Terra Cotta Company, Perth Amboy, N. J., terra cotta; Pittsburg Terra Cotta Lumber Company, Pittsburg, Pa., fire-proofing; Purdy & Henderson, New York City, consulting engineers; Russel & Irwin Manufacturing Company, New York, hardware; Taylor, Henry, Lumber Company, Lafayette, Ind., lumber construction; Wells & Newton Company, New York City, steam heating.

Bucyrus Company, The, South Milwaukee, Wis.: Model of dredging machine, and photographs.

Buffalo Pitts Company, Buffalo, N. Y.: Photographs of civil-engineering machinery.

Case Manufacturing Company, Columbus, Ohio: Photographs of traveling cranes.

Cleveland Crane and Car Company, Cleveland, Ohio: Photographs of traveling cranes.

Clulow, P. T., Schenectady, N. Y.: Photographs of engineering machinery.

Davis, Charles Henry, New York: An album of photographs of engineering work.

Deering Harvester Company, Chicago: Working model of an American factory plant, showing the arrangements for handling the materials by trains of cars and vessels.

Diamond State Steel Company, Wilmington, Del.: Photographs illustrating construction of steel factory.

Edson Manufacturing Company, Boston, Mass.: Photographs of engineering machinery.

Flory, S., Manufacturing Company, Bangor, Me.: Photographs of carrying machinery.

Gillette-Herzog Manufacturing Company, Minneapolis, Minn.: Photographs of steel construction.

- Good Roads Machinery Company, Kennett Square, New York: Photographs of road machinery.
- Graves, Edwin D., Hartford, Conn.: Photographs of engineering work.
- Henny, D. C., San Francisco, Cal.: Photographs of irrigation work.
- Hill, George, New York: Photographs of fireproof warehouse construction.
- Hutton, William R., New York City: Photographs of engineering construction.
- Ingersoll-Sergeant Drill Company, 26 Cortlandt street, New York: Model drills, quarrying machinery, compressors, etc., used on the Chicago Drainage Canal.
- International Association for Testing Materials, Philadelphia, Pa.: Photographs of testing machinery, etc.
- Iroquois Iron Works, Buffalo, N. Y.: Photographs of civil-engineering machinery.
- Jeffrey Manufacturing Company, Columbus, Ohio: Photographs of conveying machinery.
- Lathbury & Spackman, Philadelphia, Pa.: Photographs of Portland cement manufacturing.
- Link Belt Engineering Company, Nicetown, Philadelphia, Pa.: Photographs of conveying machinery.
- Linton, Harvey, Altoona, Pa.: Photographs of engineering work.
- McKim, Alexander Rice, New York: Photographs of engineering construction.
- Marion Steam Shovel Company, Marion, Ohio: Photographs of dredging and excavating machinery.
- Mississippi River Commission, St. Louis, Mo.: Models of graders and dredges.
- Phosphoria Phosphate Company, Limited, St. Augustine, Fla.: Photographs of pebble phosphate plant.
- Rand Drill Company, 100 Broadway, New York: Rock drills and machinery used on the Chicago Drainage Canal.
- Reed, D. A., Duluth, Minn.: Photographs of engineering work.
- St. Bernard Coal Company, Earlington, Ky.: Photographs of mining and conveying machinery.
- Standard Paint Company, New York: Roofing materials.
- Steel Cable Engineering Company, New York City: Photographs of conveying machinery.
- Thackray, George E., Johnstown, Pa.: Photographs illustrating modern steel building construction.
- Trenton Iron Company, The, Chicago: Photographs illustrating the preparation of engineering materials, wire, wire rope, iron, etc.
- Wood, R. D., & Co., Philadelphia, Pa.: Photographs of bridge construction.

CLASS 29.—*Models, plans, and designs for public works.*

- Abbot, Frederic V., U. S. A., St. Paul, Minn.: Photographs from United States engineer office.
- American Pipe Manufacturing Company, Philadelphia, Pa.: Photographs of water-works construction, etc.
- Baldwin, D. H., & Co., Cincinnati, Ohio: Model of modern United States piano factory, demonstrating engineering construction as applied to industrial productions.
- Belknap, W. E., New York City: Photographs of harbor work, etc.
- Berlin Iron Bridge Company, The, East Berlin, Conn.: Designs and drawings of steel construction in the United States.
- Board of park commissioners, Cambridge, Mass.: Reports.
- Board of street commissioners, Cambridge, Mass.: Reports.
- Boller, Alfred P., New York: Photographs of bridge construction.
- Boston Terminal Company, Boston, Mass.: Maps, plans, photographs, etc., showing the terminal facilities at the city of Boston.

Boston transit commission, Boston, Mass.: Maps, plans, photographs, and models showing the building of the subway for the use of street railways.

Broadway Chambers, The, New York: A collective exhibit illustrating the materials and construction of an American steel office building in New York City. Contributors: Bradley & Currier Company, New York, interior woodwork; Brooklyn Electric Equipment Company, Brooklyn, electric lighting; Bullock Electric Company, Cincinnati, Ohio, electric generators; Byrne, Thomas J., New York, plumbing; Carnegie Steel Company, Pittsburg, Pa., steel frame; Clonbrock Steam Boiler Company, Brooklyn, boilers and fittings; Empire City Marble Company, New York, marble; Fuller, George A., Company, New York, builders' models; Gilbert, Charles, New York and St. Paul, Minn., architect; Hecla Iron Works, Brooklyn, N. Y., iron supplies; Otis Elevator Company, New York, elevators; Payne Engineering Company, New York, engines; Peirce, John, New York, granite; Perth Amboy Terra Cotta Company, Perth Amboy, N. J., terra cotta; Pittsburg Terra Cotta Lumber Company, Pittsburg, Pa., fireproofing; Purdy & Henderson, New York, consulting engineers; Russel & Irwin Manufacturing Company, New York, hardware; Taylor, Henry, Lumber Company, Lafayette, Ind., lumber construction; Wells & Newton Company, New York, steam heating.

Brown, William M., jr., Boston, Mass.: Photographs of sewerage work.

Caldwell, W. E., & Co., Louisville, Ky.: Photograph of water tank.

California Paris Exposition Commission, San Francisco, Cal.: Geographic charts to be exhibited with the relief map of the State.

Cambria Steel Company, Johnstown, Pa.: Painting of their Johnstown works.

Chicago Sanitary District, Security Building, Chicago: Three models of the Chicago drainage canal, showing the full canal, the controlling works, and the heaviest rock cutting.

Coolidge, C. A., and Morin-Goustiaux, G., Chicago, Ill., and Paris, France: Designs for United States National Pavilion.

Cummings, Robert A., Owensboro, Ky.: Photographs of river-bank protection and of grain elevators *Thetis* and *Isis*.

Department of public works, Philadelphia, Pa.: Photographs illustrating the work of the bureau of surveys of the city of Philadelphia.

Department of transportation, United States Commission to Paris, Chicago: Publications, proceedings, and reports relating to civil engineering and public works.

Dun, James, chief engineer Atchison, Topeka and Santa Fe Railway Company, Topeka, Kans.: Photographs of bridge construction and river improvement.

Engineering News Publishing Company, New York: Publications—Engineering News and books on engineering subjects.

Gemmell, R. C., State engineer, Salt Lake City, Utah: Photographs of public works.

Gray, Samuel M., Providence, R. I.: Photographs of public works.

Green, Bernard R., superintendent Library buildings and grounds, Washington, D. C.: Photographs of engineering construction, etc.

Haupt, Louis M., 107 North Thirty-fifth street, Philadelphia, Pa.: Models of the alluvial bar at Aransas Pass, Tex., on the Gulf coast.

Hermany, Charles, Louisville, Ky.: Photographs of waterworks construction.

Hickley, H. V., Muscogee, Ind. T.: Photographs of bridge construction.

Hoff, Olaf, Minneapolis, Minn.: Photographs of engineering structures.

Illinois Central Railroad Company, Chicago: A model of a ballast floor trestle.

Johnson, Wallace C., Niagara Falls, N. Y.: Photographs of waterpower and transmission construction.

Jorgensen, Edward C. F., Chicago, Ill.: Drawings of exterior design of United States machinery building at Vincennes.

Kansas City and Memphis Railway and Bridge Company, Kansas City, Mo.: Model of the Memphis Bridge, with photographs.

- Kenly, William L., chief engineer, water department, Baltimore, Md.: Photographs of public works.
- King Bridge Company, Cleveland, Ohio: Photographs of bridge construction.
- Kuichling, Emil, Rochester, N. Y.: Photographs of waterworks construction.
- Lawrence sewerage board, Lawrence, Mass.: The Lawrence sewerage plant, plans, and photographs.
- Leavitt, Charles W., New York: Photographs of public works.
- Llewellyn, Frank J., Minneapolis, Minn.: Photographs of engineering structures.
- Long Island Railroad Company, New York City: Maps and photographs of the railroad, showing the plans of the line and main engineering features.
- Loweth, Charles F., C. E., St. Paul, Minn.: Photographs of engineering construction.
- McGuire, James C., New York: Photographs of engineering construction.
- Massachusetts, Commonwealth of, Boston, Mass.: A map of the Commonwealth, showing the steam railroad and street-railway lines.
- Metropolitan park board, Boston, Mass.: Maps, plans, photographs, and reports.
- Metropolitan sewerage board, Boston, Mass.: Maps, plans, photographs, and reports.
- Metropolitan water board, Boston, Mass.: Maps, plans, photographs, and reports.
- Mississippi River Commission, U. S. A., St. Louis, Mo.: Models, relief maps, plans, photographs, etc., illustrating river improvement and apparatus used for that purpose.
- Missouri Valley Bridge and Iron Works, Leavenworth, Kans.: Photographs of steel structures.
- Modjeski, Ralph, Chicago: Photographs of the Rock Island Bridge.
- Munster, A., city engineer, St. Paul, Minn.: Photographs of bridge construction.
- New York, City of: Topographical maps of New York City in 1700, 1800, and 1900. A relief map of the city in 1776.
- Ockerson, J. A., 1119 Fullerton Building, St. Louis, Mo.: River improvement, mapping machine, survey marks, and targets.
- Ostrom, John N., Pittsburg, Pa.: Photographs of bridge construction.
- Phoenix Bridge Company, Phoenixville, Pa.: Photographs of bridge construction.
- Pitt & Scott, 39 Broadway, New York: Models, plans, maps of transportation of merchandise.
- Roebliug's, John A., Sons Company: Model of Brooklyn Suspension Bridge.
- Sonne, Otto, Boston, Mass.: Photographs of a profile-taking machine.
- Standard Electric Company of California, San Francisco: Relief map, illustrating power transmission.
- State board of health, Boston, Mass.: Plans, photographs, reports, etc.
- Thacher, Edwin, Paterson, N. J.: Photographs of river bridge construction.
- United States Express Company, 49 Broadway, New York: Appliances pertaining to the transportation and delivery of express material.
- Vickers, Thomas McE., Syracuse, N. Y.: Photographs of waterworks.
- Warren City Boiler Works, Warren, Ohio: Photographs of water tanks.
- West Gallatin Irrigation Company of Montana, Manhattan, Mont.: Photographs of engineering work.
- Wilkins, George S., Chicago: Photographs of public works.
- Wrought Iron Bridge Company, Canton, Ohio: Photographs of bridge construction.
- Youngstown Bridge Company, Youngstown, Ohio: Photographs of bridge construction, etc.

CLASS 30.—*Carriages and wheelwrights' work. Automobiles and cycles.*

- American Electric Vehicle Company, 1545 Michigan avenue, Chicago: Various types of automobiles.
- American Roller Bearing Company, Boston, Mass.: Automobile bearings and automobiles.

- American Saddle Company, Elyria, Ohio: Bicycle saddles, tool bags, etc.
- Ball and Pedal Factory, Cleveland, Ohio: Bicycle pedals, steel balls, stampings, etc.
- Buffalo Factory, American Bicycle Company, Buffalo, N. Y.: Envoy and Fleetwing bicycles.
- Chain Factory, American Bicycle Company, Indianapolis, Ind.: Bicycle chains.
- Chicago Handle Bar Company, Chicago, Ill.: Bicycle handle bars.
- Cleveland Axle Manufacturing Company, Canton, Ohio: Carriage and wagon axles.
- Cleveland Factory, American Bicycle Company, Thomsonville, Conn.: Cleveland chain and chainless bicycles.
- Cleveland Machine Screw Company, Cleveland, Ohio: Automobiles and automobile supplies.
- Columbia and Electric Vehicle Company, Hartford, Conn.: Electric automobile vehicles, petroleum automobile vehicles; station equipment and apparatus for charging and transferring the storage batteries of electric automobiles.
- Columbia Factory, American Bicycle Company, Hartford, Conn.: Columbia chainless and chain and Hartford bicycles.
- Columbus Buggy Company, Columbus, Ohio: Light and heavy vehicles for business or pleasure.
- Columbus Factory, American Bicycle Company, Columbus, Ohio: Columbus bicycles for jobbing trade.
- Consolidated Rubber Tire Company, 40 Wall street, New York: Rubber-tire wheels and wheels with roller-bearing axles.
- Crawford Factory, American Bicycle Company, Hagerstown, Md.: Crawford bicycles.
- Crescent Factory, American Bicycle Company, Chicago: Crescent chainless and chain bicycles.
- Electric Vehicle Company, 100 Broadway, New York: Automobile vehicles.
- Fay Factory, American Bicycle Company, Elyria, Ohio: Fay juvenile bicycles.
- Featherstone Factory, American Bicycle Company, Chicago: Featherstone bicycles.
- Freeport Factory, American Bicycle Company, Freeport, Ill.: Phoenix bicycles.
- Geneva Factory, American Bicycle Company, Geneva, Ohio: Geneva bicycles for jobbing trade.
- Grand Rapids Cycle Company, Grand Rapids, Mich.: Clipper chainless and chain bicycles.
- Imperial Factory, American Bicycle Company, Chicago: Imperial bicycles.
- Lamb Factory, American Bicycle Company, Chicopee Falls, Mass.: Spalding chainless and chain bicycles.
- Locomobile Company of America, 11 Broadway, New York City: Steam automobiles.
- Milwaukee Factory, American Bicycle Company, North Milwaukee, Wis.: Meiselsbach, Famous, and Carnival bicycles.
- Monarch Factory, American Bicycle Company, Chicago: Monarch chainless and chain bicycles, Waverly chain bicycles.
- North Buffalo Factory, American Bicycle Company, North Buffalo, N. Y.: Niagara bicycles.
- Nyack Factory, American Bicycle Company, Nyack, N. Y.: Nyack bicycles.
- Plymouth Factory, American Bicycle Company, Plymouth, Ind.: Bicycle wood rims and guards, etc.
- Rambler Factory, American Bicycle Company, Chicago: Rambler bicycles.
- Reading Factory, American Bicycle Company, Reading, Pa.: Stover, Pennant, and Mars bicycles.
- Riker Electric Vehicle Company, Elizabethport, N. J.: Automobiles and separate parts.
- Rubber Tire Wheel Company of America, 11 Broadway, New York: The "Kempshall" rubber tire for light or heavy automobiles.
- Shelby Factory, American Bicycle Company, Shelby, Ohio: Ideal bicycles.

Smith Parts Factory, American Bicycle Company, Milwaukee, Wis.: Bicycle parts, stampings, etc.

Sterling Factory, American Bicycle Company, Kenosha, Wis.: Sterling chainless and chain bicycles.

Syracuse Factory, American Bicycle Company, Syracuse, N. Y.: Stearns, Barnes, and Syracuse bicycles.

Thomas, John P., 439 Thirtieth street, Chicago: A double-ball bearing axle, with an inner revolving sleeve.

Thompson Parts Factory, American Bicycle Company, Chicago: Bicycle frame sets, stampings, etc.

Toledo Factory, American Bicycle Company, Toledo, Ohio: Cleveland chainless and chain, and Viking bicycles.

Tribune Factory, American Bicycle Company, Erie, Pa.: Tribune chainless and chain bicycles.

Veeder Manufacturing Company, Hartford, Conn.: Cyclometers for bicycles and automobiles.

Westfield Factory, American Bicycle Company, Westfield, Mass.: Westfield bicycles.

Whitney Motor Company, The, New York: Automobiles.

CLASS 31.—*Saddlery and harness.*

Hallanan, M., 186 West Fourth street, New York: Rubber horseshoe pads and horseshoes.

McKerron, J. A., San Francisco, Cal.: Horse boots, harness, saddles, parts of harness, and materials pertaining to harness and saddlery.

O'Kane, J., San Francisco, Cal.: Harness, saddles, parts of harness, and materials pertaining to harness and saddlery.

CLASS 32.—*Equipment for railways and street railways.*

Allis, Edward P., Company, Milwaukee, Wis.: Photographs of engines for generating electric power for street railways.

American Car and Foundry Company, St. Louis, Mo.: Railroad equipment.

American Car Company, St. Louis, Mo.: Photographs of car bodies.

American Steel and Wire Company: Railroad gates and fences.

Appleton, T., Houghton, Mich.: Photographs of railroad construction.

Ashcroft Manufacturing Company, New York: Steam gauge, displayed on Baldwin locomotive.

Auditor, West Virginia State, Charleston, W. Va.: Reports.

Babcock & Wilcox Company, New York: Photographs of power-house stations.

Baldwin Locomotive Works, Philadelphia, Pa.: Express passenger locomotive. Freight locomotive, Mogul type.

Brill, J. G., Company, Philadelphia, Pa.: Working models in brass of trucks for tramway electric cars, full-sized cars, and trucks.

Brown, Harold P., 120 Liberty street, New York City: Photographs of plastic rail bonds.

Chicago, Rock Island and Pacific Railway: Pictures, etc.

Chisholm & Moore Manufacturing Company, Cleveland, Ohio: Photographs of engineering and railroad machinery.

Comptroller of the Treasury, New Jersey State, Trenton, N. J.: Railroad and canal reports.

Consolidated Car Fender Company, Providence, R. I.: Photograph of car fender.

Consolidated Car Heating Company, Albany, N. Y.: Photographs of cars and car-heating apparatus.

Continuous Rail Joint Company of America, Newark, N. J.: Rail joints, small sections, and photographs.

- Cornell University, College of Civil Engineering of, Ithaca, N. Y.: Proceedings.
- Corporation Commission, North Carolina, Raleigh, N. C.: Reports.
- Crosby Steam Gauge and Valve Company, Boston, Mass.: Safety valves, on Baldwin locomotive.
- Diamond State Steel Company, Wilmington, Del.: Bolts, nuts, spikes, fish plates, and angle bars for railroads.
- Doane, W. A., Meadville, Pa.: Photographs of railroad-bridge construction.
- Engineering Record, New York City: Publication.
- Engineering Society, Iowa, Cedar Rapids, Iowa: Proceedings.
- Engineering Society, Michigan, Climax, Mich.: Proceedings.
- Engineering Societies, Journal of the Association of, Philadelphia, Pa.: Journal.
- Engineering, Western Society of, Chicago: Proceedings.
- Engineers and Surveyors, Illinois Society of, Peoria, Ill.: Proceedings.
- Engineers, Civil, American Society of, New York: Proceedings.
- Engineers' Club of Cincinnati, Cincinnati, Ohio: Proceedings.
- Engineers' Club of Philadelphia, Philadelphia, Pa.: Proceedings.
- Engineers' Club of St. Louis, St. Louis, Mo.: Proceedings.
- Engineers, Montana Society of, Helena, Mont.: Proceedings.
- Engineers' Society of Western Pennsylvania, Pittsburg, Pa.: Proceedings.
- Equalization, Wyoming State Board of, Cheyenne, Wyo.: Reports.
- Fairbanks, Morse & Co., Franklin and Monroe streets, Chicago: Petroleum-motor cars, hand cars, push car, and velocipede cars.
- Galena Oil Company, Franklin, Pa.: Lubricating oils for railroads, street railways, etc.
- Goodwin Car Company, New York: Models of dump cars with air brakes and air dumping apparatus. Attachments to change into armor car.
- Gould Coupler Company, 25 West Thirty-third street, New York City: Master car-builders' couplers, vestibule, and continuous platforms.
- Hall, E. L., 50 North Twenty-third street, Philadelphia, Pa.: Headlight, displayed on Baldwin locomotive.
- Hendricks Brothers, 49 Cliff street, Philadelphia, Pa.: Furnace material displayed on Baldwin locomotive.
- Hipwood-Barrett Car and Fender Company, 66 Broadway, New York: Photographs of car fenders.
- Hotchkiss, C. W., Chicago: Outline plans of railroad engineering.
- International Brake-Shoe Company, Old Colony Building, Chicago: Brake shoes and diagrams of tests.
- International Pneumatic Railway Signal Company, Rochester, N. Y.: Railway-signal apparatus.
- Johnson, Thomas H., Pittsburg, Pa.: Photographs of railroad construction.
- Kimball, George A., Boston, Mass.: Photographs of railroad construction.
- Leonhardt Wagon Manufacturing Company, Baltimore, Md.: Photographs of revolving tower wagon for use on street railways.
- McCann, Thomas H., Hoboken, N. J.: Photographs of street-railway construction, etc.
- McCardell, J. R., & Co., Trenton, N. J.: Photographs of Trenton trolley wagon, used on street railways.
- McConway & Torley Company, The, Pittsburg, Pa.: Janney automatic car couplers.
- McKee, Fuller & Co., Catasauqua, Pa.: Car wheels and axles.
- National Malleable Castings Company, Cleveland, Ohio: Car couplers and attachments.
- National Railway Publication Company, New York: Official guide of the railways and steam navigation lines of the United States, Porto Rico, Canada, Mexico, and Cuba.

- National Tube Works, 267 South Fourth street, Philadelphia, Pa.: Tubes displayed on Baldwin locomotives.
- New York Air Brake Company, The, 66 Broadway, New York City: Automatic quick-action compressed-air brakes for a train of 50 freight cars and for a passenger train of 10 cars, models, diagrams, etc.
- New York Car Wheel Works, Buffalo, N. Y.: Photographs of railroad construction.
- Parkhurst, H. W., engineer of bridges, Illinois Central Railway system, Chicago: Photographs of railroad construction.
- Pennsylvania Railroad Company: Painting and photographs of trains.
- Porter, H. K., Company, Pittsburg, Pa.: Photographs of light locomotives.
- Powers, Joseph A., Lansingburg, N. Y.: Photographs of railroad construction.
- Pressed Steel Car Company, Pittsburg, Pa.: Pressed-steel cars, car trucks, and bolsters.
- Pullman Company, The, Chicago: Photographs illustrating the development of sleeping cars.
- Q. & C. Company, Chicago: Samples of ties illustrating protection afforded by tie plates and method of applying same. Illustrations and photographs.
- Railroad and warehouse commission, Illinois State, Springfield, Ill.: Reports.
- Railroad and warehouse commission, Minnesota State, St. Paul, Minn.: Reports.
- Railroad and warehouse commission, Missouri State, Jefferson City, Mo.: Reports.
- Railroad Association, The Western, Chicago: Proceedings.
- Railroad, Chattanooga and Lookout Mountain, Chattanooga, Tenn.: Photographs of double incline railway.
- Railroad, Chicago, Milwaukee and St. Paul, Chicago: Model of a Howe bridge, with approaches.
- Railroad commission, Alabama State, Montgomery, Ala.: Reports.
- Railroad commission, Arkansas State, Little Rock, Ark.: Reports.
- Railroad commission, Florida State, Tallahassee, Fla.: Reports.
- Railroad commission, Georgia State, Atlanta, Ga.: Reports.
- Railroad commission, Kentucky State, Frankfort, Ky.: Reports.
- Railroad commission, Massachusetts State, Boston, Mass.: Reports.
- Railroad commission, Mississippi State, Jackson, Miss.: Reports.
- Railroad commission, New Hampshire State, Concord, N. H.: Reports.
- Railroad commission, Texas State, Austin, Tex.: Reports.
- Railroad commission, Vermont State, Burlington, Vt.: Reports.
- Railroad commission, Virginia State, Richmond, Va.: Reports.
- Railroad commissioner, Rhode Island State, Providence, R. I.: Reports.
- Railroad commissioners, California State board of, San Francisco, Cal.: Reports.
- Railroad commissioners, Connecticut board of, Hartford, Conn.: Reports.
- Railroad commissioners, Iowa State board of, Des Moines, Iowa: Reports.
- Railroad commissioners, Kansas State board of, Fort Scott, Kans.: Reports.
- Railroad commissioners, Maine State, Augusta, Me.: Reports.
- Railroad commissioners, New York State board of, Albany, N. Y.: Reports.
- Railroad commissioners, South Carolina State, Columbia, S. C.: Reports.
- Railroad commissioners, South Dakota State, Sioux Falls, S. Dak.: Reports.
- Railroad commissioners, Wisconsin State, Madison, Wis.: Reports.
- Railroad Company, Lehigh Valley, New York: Photographs of railroad construction.
- Railroad Company, Michigan Central, Detroit, Mich.: Photographs of railroad construction.
- Railroad Company, Philadelphia and Reading, Philadelphia, Pa.: Photographs of railroad construction.
- Railroad Gazette, New York: Publication upon engineering.
- Railroad, New York Central and Hudson River, Albany, N. Y.: Photographs of railroad construction.
- Railroad, Northern Pacific, St. Paul, Minn.: Atlas of standard bridge plans.

- Railroads and telegraphs, Ohio State commissioner of, Columbus, Ohio: Reports.
- Railroads, commissioner of, Michigan State, Lansing, Mich.: Reports.
- Railroads, commissioners of, North Dakota State, Bismarck, N. Dak.: Reports.
- Railway Accounting Officers, Association of American, Chicago: Proceedings.
- Railway Age, Chicago: Publication—The Railway Age.
- Railway and Engineering Review, Chicago: Publication.
- Railway Association, The American, New York: Proceedings.
- Railway, Boston and Maine, Boston, Mass.: Photographs and descriptive publications.
- Railway Car Accountants, International Association of, Cedar Rapids, Iowa: Proceedings.
- Railway, Chicago and West Michigan, Grand Rapids, Mich.: Photographs of railroad construction.
- Railway Club, Central, of Buffalo, N. Y.: Proceedings.
- Railway Club, New England, Springfield, Mass.: Proceedings.
- Railway Club, New York, Brooklyn, N. Y.: Proceedings.
- Railway Club, Northwest, Minneapolis, Minn.: Proceedings.
- Railway Club, St. Louis, Mo.: Proceedings.
- Railway Club, Western, Chicago: Proceedings.
- Railway Company, Colorado Midland, Denver, Colo.: Photographs of railroad and tunnel construction.
- Railway Company, Gulf, Colorado and Santa Fe, Galveston, Tex.: Photographs of railroad machinery.
- Railway Company, Metropolitan West Side Elevated, Chicago: Photographs of elevated railway construction.
- Railway Company, Missouri Pacific, St. Louis, Mo.: Photographs of railroad work.
- Railway Company, Peoria and Eastern, Indianapolis, Ind.: Photographs of railroad construction.
- Railway General Passenger and Ticket Agents, American Association of, Cleveland, Ohio: Proceedings.
- Railway Master Car and Locomotive Painters' Association, Kent, Ohio: Proceedings.
- Railway Master Car Builders' Association, Chicago: Proceedings.
- Railway Master Mechanics, American Association of, Chicago: Proceedings.
- Railway Road Masters' Association of New England, Ware, Mass.: Proceedings.
- Railway Signaling Club, West Milwaukee, Wis.: Proceedings.
- Railway Superintendents of Bridges and Buildings, Association of, Concord, N. H.: Proceedings.
- Railway Telegraph Superintendents, Association of, Milwaukee, Wis.: Proceedings.
- Railways, Pennsylvania State bureau of, Harrisburg, Pa.: Reports.
- Reading Iron Company, Reading, Pa.: Tubes displayed on Baldwin locomotive.
- Ricker, George A., Buffalo, N. Y.: Photographs of railway construction.
- Road Masters' Association of America, Sterling, Ill.: Proceedings.
- Rodd, Thomas, chief engineer Pennsylvania lines west of Pittsburg, Pittsburg, Pa.: Photographs of track elevation.
- Scripture, Edward W., New Haven, Conn.: Color-sight testing instruments.
- Sellers, William, & Co., Incorporated, Philadelphia, Pa.: Self-acting injector.
- Signal Oil Company, Franklin, Pa.: Locomotive and car lubricating oils.
- Standard Steel Works, Philadelphia, Pa.: Railroad wheels, axles, tires, and forgings.
- Street Railway Association, American, Chicago: Proceedings.
- Street Railway Publishing Company, New York: Street Railway Journal.
- Surveyors and Civil Engineers, Ohio Society of, Columbus, Ohio: Proceedings.
- Taunton Locomotive Manufacturing Company, Taunton, Mass.: Photographs of light locomotives.
- Tax commissioner, Maryland State, Annapolis, Md.: Reports.

Tax commissioners, Indiana State board of, Indianapolis, Ind.: Reports.
 Track elevation and depression commission, Chicago: Plans and photographs of track elevation and depression.
 Transportation, Nebraska State board of, Lincoln, Nebr.: Report.
 United States Metallic Packing Company, Philadelphia, Pa.: Metallic packing, displayed on Baldwin locomotive.
 Weber Railway Joint Manufacturing Company, New York: Railway joints and bonds, photographs and drawings.
 Westinghouse Air Brake Company, Pittsburg, Pa.: Brakes on locomotives.
 Wilgus, William J., New York: Photographs of railroad construction.
 Worth Bros. & Co., Coatesville, Pa.: Boiler material, displayed on Baldwin locomotive.
 Yard, E. J., Salt Lake City, Utah: Photographs of railroad construction.

CLASS 33.—*Material and equipment used in the mercantile marine.*

Advance Coal Company, Pittsburg, Pa.: Model of towboat, with barges.
 Alleman, A., Brenham, Tex.: Live-saving apparatus.
 Allen, Frederick S., Cuttyhunk Island, Massachusetts: Live-saving apparatus.
 American Steel Barge Company, New York City: Models of whaleback barges and others.
 Arnold, Mrs. W. A., New York: Model of schooner yacht *Sachem*.
 Astor, John Jacob, New York: Model of electric yacht *Eutopian*.
 Atlantic Yacht Club, New York: Model of steam yacht *Presto*.
 Bagg, S. F., Tarrytown, N. Y.: Life-saving apparatus.
 Bartholomew, J. S., Guerneville, Cal.: Life-saving apparatus.
 Benson, Oliver, 111 Fourth avenue, New York: Life-saving apparatus.
 Bergfeldt, N. H., 341 East Fifty-ninth street, New York: Life-saving apparatus.
 Bethlehem Steel Company, South Bethlehem, Pa.: Photographs illustrating the manufacture of armor plate, ordnance, hollow or solid forged shafting, general forgings, and castings; commercial product steel forgings for marine and stationary engines, machine tools.
 Bolles, Charles E., 244 Fulton street, Brooklyn, N. Y.: Yachting and marine photographs.
 Bowles, Francis T., naval constructor, United States Navy: Life-saving apparatus.
 Boyle, Patrick F., 17 Conlin court, Worcester, Mass.: Life-saving apparatus.
 Bradley, J. D., Barker, Niagara County, N. Y.: Life-saving apparatus.
 Bragard, A., Donaldsonville, La.: Life-saving apparatus.
 Brokaw, W. Gould, New York Yacht Club, New York: Model of schooner yacht *Amorita* and painting of same.
 Bullock, George, Seawanhaka Corinthian Yacht Club, New York: Model of sloop yacht *Narota*.
 Burton-Hoffman Photo Company, 9 West Forty-second street, New York: Yachting and marine photographs.
 Busk, Mrs. J. R., Newport, R. I.: Model of schooner yacht and model of schooner yacht *Mischief*.
 Cainsbensy, Frank, 27 North Hoyne avenue, Chicago: Life-saving apparatus.
 Carley, Horace L., 123 Huntington avenue, Hyde Park, Mass.: Life-saving apparatus.
 Carter, W. C., Delaware, Ohio: Life-saving apparatus.
 Castillo, Ernest, West Tampa, Fla.: Life-saving apparatus.
 Chapman, W. H., Salt Lake City, Utah: Life-saving apparatus.
 Cobb, J. I., Salina, Kans.: Life-saving apparatus.
 Columbia Safety S. S. Company, Boston, Mass.: Life-saving apparatus.
 Crawshaw, C. R., Jonesville, Va.: Life-saving apparatus.
 Darlot, Cyrus H., 455 East Fifty-seventh street, New York: Life-saving apparatus.

- Department of transportation, United States Commission to the Paris Exposition: A collective exhibit illustrating the development of American yachts.
- Dickenson, Charles G. L. O., Washington, D. C.: Life-saving apparatus.
- Dingman, J. A., Spring Valley, Ill.: Life-saving apparatus.
- Doremus, Dr., College, City of New York: Life-saving apparatus.
- Drein, Thomas, & Co., Wilmington, Del.: Life-saving apparatus.
- Dubreuil, Victor, 107 West Forty-third street, New York: Life-saving boat.
- Duncan, John P., New York Yacht Club, New York: Model of steam yacht *Kanawha*.
- Elliott, William R., 6222 South Halsted street, Chicago: Life-saving apparatus.
- Ellis, W. H., Fremont, Neb.: Life-saving apparatus.
- Flint, Charles R., New York Yacht Club, New York: Model of a steam yacht.
- Forbes, J. Malcolm, Boston, Mass.: Model of sloop yacht *Puritan*.
- Furgerson, Alan R., 253 Broadway, New York: Life-saving apparatus.
- Gardner & Cox, 1 Broadway, New York City: Half models of sloop yacht *Sycc* and of schooner yacht *Quisetta*.
- German, Solomon, Davidsonville, Md.: Life-saving apparatus.
- Goldberg, B. W., 5 Beekman street, New York: Life-saving apparatus.
- Gondy, Arthur L., 1400 Louisiana street, Lawrence, Kans.: Life-saving apparatus.
- Goodwin Car Company, New York: Model of dumping barge.
- Hara, G. R., Salida, Colo.: Life-saving apparatus.
- Harris, Henry W., New York Yacht Club, New York: Oil painting of schooner yacht *Quisetta*.
- Hatton, J. H., Fort Covington, New York: Life-saving apparatus.
- Hedberg, Alexander S., 9310 Evans avenue, Chicago: Life-saving apparatus.
- Herbert, Frederick D., 20 Broad street, New York: Life-saving apparatus.
- Hichborn, Philip, Chief Constructor, United States Navy, Washington, D. C.: Life-saving buoy.
- Higginson, H. C., Orange Lake Ice Yacht Club, New York: Model of ice yacht *Cold Wave*.
- Higginbotham, Elmer E., 6952 Parnell avenue, Chicago: Life-saving apparatus.
- Hoy, M. P., Rosedale, Wash.: Life-saving apparatus.
- Hughes, John P., 35 Walcott street, Brooklyn, N. Y.: Life-saving apparatus.
- International Navigation Company, New York: Models, pictures, photographs, etc., of the steamships and other property of the company, descriptive of trans-Atlantic steamship business.
- Iowa Iron Works, Limited, Dubuque, Iowa: Model of a stern-wheel towboat.
- Irwin, Charles P., Red Bank, N. J.: Full-rigged model of ice yacht *Georgie*.
- Ivers, John J., Lowell, Mass.: Life-saving apparatus.
- Jaques, W. H., 277 Clarendon street, Boston, Mass.: Life-saving apparatus.
- Johnson, J., Bridgeport, Ala.: Life-saving apparatus.
- Karnowsky, William, Florence, Oreg.: Life-saving apparatus.
- Kennedy, W. J., Pier 14, North River, New York: Life-saving apparatus.
- Knickerbocker, Willis, New Lenox, Ill.: Life-saving apparatus.
- Kudo, M., Seattle, Wash.: Life-saving apparatus.
- Lake, Levin, Charles and Saratoga streets, Baltimore, Md.: Life-saving apparatus.
- Oil shell.
- Leister, William Hammond, Westminster, Md.: Life-saving apparatus.
- Leschbrandt, E., 206 North Sixth street, Philadelphia, Pa.: Life-saving apparatus.
- Little, Joseph H., 105 East One hundred and twenty-third street, New York: Life-saving apparatus.
- Lozier Manufacturing Company, Cleveland, Ohio: Gasoline launch.
- Lund, Waldemar, New York and 33 Fredericksberggade, Copenhagen, Denmark: Life-saving apparatus.
- Lyden, M. J., 8 Patterson street, Worcester, Mass.: Life-saving apparatus.

- Lyon, Leonidas S., jr., Flatonia, Tex.: Life-saving apparatus.
- McKinnon, James W., 713 East One hundred and thirty-eighth street, New York: Life-saving apparatus.
- McManus, Thomas F., Boston, Mass.: Half models of pilot boat *America*, fishing schooner *Juniata*, fishing boats *James S. Steele* and *Maggie Sullivan*.
- Magnerson, J. F., 120 Sutter street, San Francisco, Cal.: Life-saving apparatus.
- Magoun, F. P., New York Yacht Club, New York: Model of steam yacht *Viper*.
- Marsh, John N., Williamstown, N. J.: Life-saving apparatus.
- Massachusetts, State of, Boston, Mass.: Collective exhibit of models of vessels as follows: *Sparrow Hawk*, early colonial, constructed in 1626; *Manchester*, fishing schooner, constructed in 1713; *Black Sloven*, chebacco boat, constructed in 1790; *Lucy*, old style dogbody boat, constructed in 1805; *John W. Herbert*, fishing schooner, constructed in 1848; *Congress*, fishing schooner, constructed in 1849; *Harry L. Belden*, mackerel schooner, constructed in 1889; *Nannie C. Bohlan*, fishing schooner, constructed in 1890.
- Massenge, August, 233 Fulton street, Grand Rapids, Mich.: Life-saving apparatus.
- Merriman, C. S., Villisca, Iowa: Life-saving apparatus.
- Miller, Clark A., New York Yacht Club, New York: Model of schooner yacht *Mohegan*.
- Mississippi River Commission, United States of America, St. Louis, Mo.: Models of towboats and barges used on the Mississippi River.
- Morgan, E. D., New York Yacht Club, New York: Models of sloop yacht *Mayflower*, schooner yacht *Constellation*, sloop yacht *Gloriana*.
- Morgan, J. Pierpont, New York Yacht Club, New York: Model of steam yacht *Corsair*.
- Mosher, C. D., 1 Broadway, New York City: Models of steam yachts.
- Motley, Thornton N., New York Yacht Club, New York: Model of schooner yacht *Magic*.
- New York Boat Oar Company, 69 West street, New York: Ash, spruce, and spoon oars; handspikes, mast hoops, etc.
- New York Yacht Club, New York: Models of sloop yachts *Defender* and *Vigilant* and of schooner yacht *Sappho*.
- Nuque, Gustave, Philadelphia, Pa.: Life-saving apparatus.
- O'Brien, H. Jefferson, West Superior, Wis.: Life-saving apparatus.
- Omeyer, Emile, 365 West Thirty-sixth street, New York: Life-saving apparatus.
- O'Neill, William E., Chicago Stock Exchange, Chicago: Life-saving apparatus.
- Ostermeyer, William, 3351 California avenue, St. Louis, Mo.: Life-saving apparatus.
- Paine, Gen. A. J., Boston, Mass.: Model of sloop yacht *Volunteer*.
- Pendleton, Andrew F., Franklin, Mass.: Life-saving apparatus.
- Perley, C. B., 1001 Bush street, San Francisco, Cal.: Life-saving apparatus.
- Phoenix, Lloyd, New York Yacht Club, New York: Models of auxiliary yacht *Intrepid*.
- Plecher, Andrew, Habersham and Second streets, Savannah, Ga.: Life-saving apparatus.
- Postley, Clarence A., Larchmont Yacht Club, New York: Painting of schooner yacht *Colonia*.
- Redmond, Edmond, Rochester, N. Y.: Life-saving apparatus.
- Richens, John M., Fitzgerald, Ga.: Life-saving apparatus.
- Ridley, Chris, 216 Laurel street, West Tampa, Fla.: Life-saving apparatus.
- Rolf, A. A., 125 La Salle street, Chicago: Life-saving apparatus.
- Savage, J. M., 10 North Desplaines street, Chicago: Life-saving apparatus.
- Seawanhaka Corinthian Yacht Club, Long Island, New York: Half models racing and pleasure yachts.
- Sinclair, W. A., South Bend, Ind.: Life-saving apparatus.

- Smith, George B., Indianola, Nebr.: Life-saving apparatus.
 Spalding St. Lawrence Boat Company, Ogdensburg, N. Y.: St. Lawrence River skiff and Canadian type of paddling canoe.
 Stanley, William E., Watsonville, Cal.: Life-saving apparatus.
 Stebbins, Charles M., Orange Lake Ice Yacht Club, New York: Model of ice yacht *Katita*.
 Stevens Institute, Hoboken, N. J.: Model of ferryboat *Hamburgh*.
 Stewart, S. N., 168 Jefferson avenue, Brooklyn, N. Y.: Life-saving apparatus.
 Sultemeyer, C. F., 1448 North Halsted street, Chicago: Life-saving apparatus.
 Tams, Lemoine & Crane, New York: Half model of schooner yacht *Endymion*.
 Taylor, W. H., Narragansett Pier, R. I.: Life-saving apparatus.
 Thatcher, H. L., Aurora, Ill.: Life-saving apparatus.
 Thibodran, Emlyde, Cohoes, N. Y.: Life-saving apparatus.
 Thompson, Edward D., 81 Fulton street, New York: Life-saving apparatus.
 Todd, W. E., Charleston, S. C.: Life-saving apparatus.
 Tunison, Mary L., 63 Franklin street, Trenton, N. J.: Life-saving apparatus.
 Universal Exposition Commission of the State of New York, New York: Models of schooner yachts *Madeline*, *Columbia*, and *America*.
 Van Cauenberg, Frank, 1204 Southwest street, Rockford, Ill.: Life-saving apparatus.
 Van Wye, G. P., Park Row building, New York: Life-saving apparatus.
 Wagner, W. F., Wabash, Ind.: Life-saving apparatus.
 Wright, Henry L., Walden, N. Y.: Life-saving apparatus.
 Warren, E. B., New York Yacht Club, New York: Model of steam yacht *Ellide*.

GROUP VII.—AGRICULTURE.

CLASS 35.—*Farm equipment and the methods of improving land.*

- Adriance, Platt & Co., Poughkeepsie, N. Y.: Mowers, reapers, binders, harrows, and rakes.
 Aermour Company, The, Chicago: Windmills, pumps, tanks.
 Armour Fertilizing Works, Chicago: Fertilizers, dried blood, tankage.
 Ashepoo Fertilizer Company, Charleston, S. C.: Fertilizers.
 Aultman, Miller & Co., Akron, Ohio: Buckeye mowing machine, Buckeye twine-binding harvester, Buckeye reaper.
 Bayle & Lacosta, San Francisco, Cal.: Fertilizers.
 Central Phosphate Company, Mount Pleasant, Tenn.: Phosphate rock.
 Chicago Flexible Shaft Company, Chicago: Hair and wool clipping machines, carriage heaters.
 Deere & Co., Moline, Ill.: Agricultural implements.
 Deering Harvester Company, Chicago: Harvesting machinery, etc.
 Department of Agriculture, United States, Division of Chemistry, Washington, D. C.: Collective exhibit of fertilizers and fertilizing materials.
 Indo-Egyptian Compress Company, New York City: Compress for cotton, hay, hemp, sisal, rags.
 Johnson & Field Manufacturing Company, Racine, Wis.: Fanning mill and separator.
 Johnston Harvester Company, Batavia, N. Y.: Harvesting machinery, farm tools.
 Kaufman Fertilizer Company, Indianapolis, Ind.: Fertilizer, from raw material to finished product.
 Kny Scheerer Company, 17 Park Row, New York City: Veterinary surgical instruments.

McCormick Harvesting Machine Company, Chicago: Models of machines invented and developed by Cyrus H. McCormick and his successors. Harvesting machinery.

Milwaukee Harvester Company, Milwaukee, Wis.: Farm machinery, harvesters, binders, reapers, and mowers.

Osborne, D. M., & Co., Auburn, N. Y.: Agricultural machinery.

Plano Manufacturing Company, Chicago: Harvesting machinery.

Stover Manufacturing Company, Freeport, Ill.: Windmills, feed-grinding mills, hardware.

Syracuse Chilled Plow Company, Syracuse, N. Y.: Farm machinery, plows, harrows, cultivators, etc.

Virginia-Carolina Chemical Company, Richmond, Va.: Fertilizers.

Warder, Bushnell & Glessner Company, Chicago: Champion binder, mowers, and reapers.

Whitman Agricultural Company, St. Louis, Mo.: Presses for baling hay.

Whitman & Barnes Company, Akron, Ohio: Mower and binder knives and sections. Twist drills, hammers, hatchets.

Withington & Cooley Manufacturing Company, Jackson, Mich.: Forks, hoes, rakes, scythes, snaths, etc.

Wood, Walter A., Mowing and Reaping Machine Company, Hoosick Falls, N. Y.: Harvesting machinery.

CLASS 36.—*Appliances and methods of viticulture.*

Allen, S. L., & Co., Philadelphia, Pa.: Horse hoes for vine culture.

Oliver Chilled Plow Company, South Bend, Ind.: Implements for vine culture.

CLASS 37.—*Appliances and methods used in agricultural industries.*

American Separator Company, Bainbridge, N. Y.: Dairy appliances; cream separator.

Aspinwall Manufacturing Company, Jackson, Mich.: Churn.

Biesecker, J. S., New York City: Dairy appliances.

Buhl Stamping Company, Detroit, Mich.: Dairy appliances and stable appliances.

Champion Milk Cooler, Cortland, N. Y.: Milk and cream coolers.

Cornish & Co., St. Paul, Minn.: Boyd cream vat.

Cornish, Curtis & Green Manufacturing Company, Fort Atkinson, Wis.: Model of an American creamery, fully equipped; dairy appliances.

Dairymen's Supply Company, The, Philadelphia, Pa.: Dairy machinery and supplies.

Department of Agriculture, United States, Dairy Division, Bureau of Animal Industry, Washington, D. C.: Collective exhibit of dairy appliances; by-products of dairy industry.

Elgin Manufacturing Company, The, Elgin, Ill.: Dairy appliances.

Ertels, George M., Company, Quincy, Ill.: Incubators, brooders, poultry appliances.

Fairfield Dairy Company, The, Montclair, N. J.: Photographs and models illustrating the work of a dairy and its fittings.

Fitch, C. L., Fort Atkinson, Wis.: Scale for butter coloring.

Greiner, Emil, New York City: Dairy appliances.

Gurler, H. B., De Kalb, Ill.: Photographs of dairy and fittings; dairy appliances.

Hall, William A., Bellow Falls, Vt.: Dairying by-products.

Johnson, J. F., & Co., Racine, Wis.: Dairy appliances.

Moseley & Stoddard Manufacturing Company, Rutland, Vt.: Dairy appliances.

National Specialty Company, Racine, Wis.: Milk pails.

Nelson, Hall & Co., Montgomery, Vt.: Butter tubs and boxes.

- Reid, A. H., Thirtieth and Market streets, Philadelphia, Pa.: Milk separators, hand and power, pasteurizers.
- Reliable Incubator and Brooder Company, Quincy, Ill.: Incubators and brooders, models, poultry appliances.
- St. Louis Dairy Company, St. Louis, Mo.: Photographs. Plant, equipment, and work of handling milk in a city.
- Sharples, P. M., West Chester, Pa.: Cream separators.
- Star Milk Cooler Company, The, Haddonfield, N. J.: Milk cooler, bottling machine, etc.
- Vermont Farm Machine Company, Bellows Falls, Vt.: Dairy appliances.
- Wickson, G. G., & Co., San Francisco, Cal.: Dairy appliances.
- Wilder Manufacturing Company, Springfield, Mass.: Electrical temperature indicator.
- Williams, Thomas, Brooklyn, N. Y.: Felt jackets for milk cans.

CLASS 38.—*Theory of agriculture—Agricultural statistics.*

- Agricultural Experiment Station of Alabama, Auburn, Ala.: Experiments on improvement of varieties of cotton. Monograph on cotton, photographs.
- Agricultural Experiment Station of Arizona, Tucson, Ariz.: Charts showing influence of winter irrigation on movement of ground water. Photographs.
- Agricultural Experiment Station of Arkansas, Fayetteville, Ark.: Photographs. Fertilizer experiments with wheat.
- Agricultural Experiment Station of California, Berkeley, Cal.: Typical soils, soil map, soil analysis, photographs and reports.
- Agricultural Experiment Station of Colorado, Fort Collins, Colo.: Photographs.
- Agricultural Experiment Station of Connecticut, New Haven, Conn.: Collection of vegetable proteids, separated from various seeds. Photographs.
- Agricultural Experiment Station of Delaware, Newark, Del.: Photographs.
- Agricultural Experiment Station of Florida, Lake City, Fla.: Photographs. Experiments with pineapples, etc.
- Agricultural Experiment Station of Idaho, Moscow, Idaho: Photographs.
- Agricultural Experiment Station of Illinois, Urbana, Ill.: Photographs.
- Agricultural Experiment Station of Indiana, Lafayette, Ind.: Plant centrifuge. Photographs.
- Agricultural Experiment Station of Iowa, Ames, Iowa: Photographs, models of fruits, vegetables, and meats.
- Agricultural Experiment Station of Kansas, Manhattan, Kans.: Models of meat showing effect of breed and feeding. Photographs.
- Agricultural Experiment Station of Kentucky, Lexington, Ky.: Charts showing effects of fertilizers. Photographs.
- Agricultural Experiment Station of Maine, Orono, Me.: Photographs.
- Agricultural Experiment Station of Maryland, College Park, Md.: Photographs.
- Agricultural Experiment Station of Minnesota, St. Anthony Park, Minn.: Photographs, charts, samples of crossbred wheat.
- Agricultural Experiment Station of Mississippi, Agricultural College, Miss.: Photographs.
- Agricultural Experiment Station of Missouri, Columbia, Mo.: Sheep charts showing crossing experiments. Photographs.
- Agricultural Experiment Station of Montana, Bozeman, Mont.: Photographs.
- Agricultural Experiment Station of Nebraska, Lincoln, Nebr.: Photographs.
- Agricultural Experiment Station of New Hampshire, Durham, N. H.: Photographs.

- Agricultural Experiment Station of New Jersey, New Brunswick, N. J.: Monograph on plant diseases; 20 mounted specimens. Photographs.
- Agricultural Experiment Station of New Mexico, Mesilla Park, N. Mex.: Photographs, cereal exhibits.
- Agricultural Experiment Station of New York, Geneva, N. Y.: Charts, sources of milk fat, coefficients of digestibility of American food stuffs. Photographs.
- Agricultural Experiment Station of North Carolina, Raleigh, N. C.: Photographs.
- Agricultural Experiment Station of North Dakota, Agricultural College, N. Dak.: Root cages showing distribution of grain and grasses in soils. Photographs.
- Agricultural Experiment Station of Ohio, Wooster, Ohio: Monograph on plant diseases. Charts, photographs.
- Agricultural Experiment Station of Oklahoma, Stillwater, Okla.: Photographs, tests of orchards and of irrigation on forest trees; feeding experiments.
- Agricultural Experiment Station of Pennsylvania, State College, Pa.: Bulletin on metabolism; experiments on steers to determine maintenance rations. Photographs.
- Agricultural Experiment Station, Reno, Nev.: Photographs.
- Agricultural Experiment Station of Rhode Island, Kingston, R. I.: Photographs; experiments in crossing geese; effects of lime on clover, etc.
- Agricultural Experiment Station of South Carolina, Clemson College, S. C.: Photographs.
- Agricultural Experiment Station of South Dakota, Brookings, S. Dak.: Photographs.
- Agricultural Experiment Station (Storrs), Storrs, Conn.: Bacteria cultures useful or deleterious in dairying. Photographs.
- Agricultural Experiment Station of Tennessee, Knoxville, Tenn.: Photographs.
- Agricultural Experiment Station of Texas, College Station, Tex.: Photographs.
- Agricultural Experiment Station of Utah, Logan, Utah: Photographs.
- Agricultural Experiment Station of Vermont, Burlington, Vt.: Photographs, charts, monographs.
- Agricultural Experiment Station of Virginia, Blacksburg, Va.: Photographs, charts.
- Agricultural Experiment Station of Washington, Pullman, Wash.: Photographs, varieties of grasses.
- Agricultural Experiment Station of West Virginia, Morgantown, W. Va.: Photographs, monographs, auxanometer.
- Agricultural Experiment Station of Wisconsin, Madison, Wis.: Milk tests, meat models, charts, photographs.
- Agricultural Experiment Station of Wyoming, Laramie, Wyo.: Charts, photographs.
- Association of Agricultural Colleges and Experiment Stations: Collective exhibit of the work of experiment stations in the United States.
- Chamberlain Publishing Company, Orange, N. J.: Publications, Rackham's Poultry Directory.
- Department of Agriculture, United States, Bureau of Animal Industry, Washington, D. C.: Maps, charts, illustrating animal industries in the United States.
- Department of Agriculture, United States, Dairy Division, Bureau of Animal Industry, Washington, D. C.: Maps, diagrams, and charts illustrating dairy industries of the United States.
- Department of Agriculture, United States, Division of Soils, Washington, D. C.: Electrical apparatus for determining soil moistures, samples of soils.
- Department of Agriculture, United States, Office of Experiment Stations, Washington, D. C.: Publications, photographs, plans, drawings.
- Department of Agriculture, United States, Weather Bureau, Washington, D. C.: Working weather station and observatory, showing the recording instruments in operation.

Experiment Station of Alaska, Sitka, Alaska: Agricultural products, photographs.
 Experiment Station of Cornell University, Ithaca, N. Y.: Photographs, models.
 Experiment Station of Georgia, Experiment, Ga.: Photographs.
 Experiment Station of Hawaii, Honolulu, Hawaii: Lavas and rocks, natural mineral products, coffee, rice, sugar. Photographs.
 Experiment Station of Louisiana, Baton Rouge, La.: Photographs.
 Experiment Station (Sugar) of Louisiana, New Orleans, La.: Photographs.
 Experiment Station (Hatch) of Massachusetts, Amherst, Mass.: Photographs, charts.

CLASS 39.—*Vegetable food products.*

Abbot, M. J., Urbana, Ohio: Wheat.
 Abernathy, J. E., Ocellus, Tenn.: New York hard wheat, winter barley, winter rye, oats.
 Abild, Hans, Lodi, S. Dak.: Indian corn.
 Ackman & Tuftey, Los Angeles, Cal.: Olive oil.
 Alaska Agricultural Experiment Station, Sitka, Alaska: Wheat and oats.
 Agricultural Experiment Station (Hatch), Amherst, Mass.: Millet, soy beans, plants, seeds, and hay.
 Agricultural Experiment Station of Kentucky, Lexington, Ky.: Collective exhibit of wheats.
 Agricultural Experiment Station of Maryland, College Park, Md.: Wheats, corn, emmer.
 Agricultural Experiment Station of New Mexico, Mesilla Park, N. Mex.: Grain, new varieties produced by Prof. A. E. Blount.
 Agricultural Experiment Station of North Dakota, Agricultural College, N. Dak.: Barley, corn, buckwheat, oats, emmer, wheats.
 Agricultural Experiment Station of Oregon, Corvallis, Oreg.: Collective exhibit of export cereals grown in Oregon.
 Agricultural Experiment Station of Pennsylvania, State College, Pa.: Collective exhibit of wheats.
 Agricultural Experiment Station of Washington, Pullman, Wash.: Collective exhibit of barley, oats, wheat.
 Aiken, W., Fairforest, S. C.: Lowland swamp rice.
 Allen, W. J., Watertown, Tenn.: Maize.
 Aldredge, W., Hinckley, Utah: Alfalfa seed.
 Altman, J., Cribbs, Pa.: Winter rye.
 American Cereal Company, The, Chicago: Dairy stock and poultry foods.
 Amsden, C. S., Millbank, S. Dak.: Barley, marble wheat, winter rye.
 Anable, I. M., Naples, N. Y.: Clawson gold coin wheat, oats, barley, winter rye.
 Anderson, P. jr., Moroni, Utah: Wheat.
 Anderson, T. O., Abilene, Tex.: Corn, millet.
 Andrews, F. G., Chinagrove, Miss.: Rice.
 Apperson, R. W., Pisgah, Mo.: Maize.
 Arizona Agricultural Experiment Station, Phoenix, Ariz.: Wheat.
 Ashley, D. G., Ashley, Miss.: Oats, corn.
 Atkinson, J. H., O'Fallon, Ill.: Fultz and Fulcaster wheat, black oats, corn.
 Ayres, A., Lansing, Mich.: Corn.
 Bagwell, N. E., Allensville, Ky.: Little Willis corn.
 Bailey, M. M., Birdsall, Mich.: Rye, oats.
 Baird, A., Greenville, Ohio: White oats.
 Baker, G. G., Britton, Okla.: White kaffir corn, wheat, oats.
 Baker, W. W., Walla Walla, Wash.: Wheat.
 Baker, I. P., Bismarck, N. Dak.: Wheat.

- Baker, J. W., Kymulga, Ala.: Blue stem wheat, black rye.
- Baker, Theodore, Giltner, Nebr.: Silver white corn.
- Baldwin, A., Oberon, N. Dak.: German rust-proof oats.
- Barker, L. D., Pleasanthill, Nebr.: Black winter rye, white Swedish oats, corn.
- Barnes, E. F., Bloomington, Okla.: Early Dwarf, Yellow Paxton, Hickory King corn.
- Barnett, R. C., Lebanon, Kans.: Snowflake corn.
- Barson, P. S., Clarkston, Utah: New Zealand wheat, white oats.
- Barteldes & Co., Lawrence, Kans.: Collection of saccharine and nonsaccharine sorghums for forage.
- Bass, E. I., Watertown, Tenn.: Neal's white corn.
- Bass, J. A., Watertown, Tenn.: Burt oats.
- Baugh, J. W., Franklin, Tenn.: Rye, Burt oats, Fultz and Longberry wheat.
- Baxter, J. R., Spring City, Utah: Wheat.
- Beatty, H. C., Terra Alta, W. Va.: Buckwheat.
- Beck, W. H., Bluesprings, Nebr.: Turkey wheat.
- Beeson, H. H., Newmarket, N. C.: Blue rye, Fulcaster wheat.
- Bentley, H. L., Abilene, Tex.: Hay.
- Bell, E. P., Florence, Tenn.: Oats.
- Beneke, E., Brockfield, Wis.: Manchuria barley, German rye, oats, Fife spring wheat, yellow flint hard corn.
- Bennett & Millett Company, The, Gouverneur, N. Y.: Ground clover poultry food.
- Betzler, H., Appleton, N. Y.: Barley.
- Biggs, B. D., Shippensburg, Pa.: Wyandotte red wheat.
- Blackstock, J., Avoca, Tex.: Red oats.
- Blank, N. J., Pisgah, Mo.: Black oats.
- Blevins, J., Omega, Okla.: Maize.
- Batchford, E. W., & Co., Chicago: Calf, horse, and poultry foods.
- Block, H., St. Augusta, Minn.: Winter rye.
- Blume, I., Blume, La.: Black rye, wheats, improved yellow corn.
- Board of Trade, New Orleans, La.: Collective exhibit of rice.
- Boejmke, E., Remsen, Iowa: Clover, white and yellow corn.
- Bowers, A. G., Ennis, Mont.: Oats.
- Bowles, Rudder & Weber, Afton, Mo.: Corn, prehistoric and other varieties.
- Bradstreet, H. C., Clifton, Tex.: Gold chaff, Mediterranean wheat, winter rye, rust-proof oats, corn.
- Bradstreet, W. C., Clifton, Tex.: German millet.
- Brewer, J. F., Walla Walla, Wash.: Red chaff wheat in the straw.
- Brittain, W., Parkman, Wyo.: Alfalfa.
- Brown, A., Greenville, Va.: White and yellow dent corn.
- Brown, C. L., Cinnaminson, N. J.: Rye.
- Brown, J. J., Sprague, Wash.: "Pelouse blue stem," white winter wheat, blue barley, mammoth white oats.
- Brown, L., Clio, Mich.: Jones's Fife winter wheat, barley, silver hull buckwheat, rye, corn.
- Browning, J. A., Church Hill, Ky.: Fultz and Fulcaster wheat, Big Willie corn.
- Bruce, H. C., McPherson, Kans.: Golden Beauty corn.
- Brumbaugh, J. N., Manganville, Md.: Spade wheat.
- Bryan, J. L., Watertown, Tenn.: Bearded Fulcaster wheat.
- Buren, John J., Cullom, Ill.: Early yellow dent and Silver Mine maize, barley, white Hunt oats.
- Burgur, L. A., Tonica, Ill.: Maize and oats.

- Burgess, L. A., Tonica, Ill.: German millet.
- Burgeson, B. O., Aurora, Nebr.: Mammoth white corn.
- Burnett, J., Corvallis, Oreg.: Golden Chaff, Kinney, and white winter wheat.
- Burpee, W. Atlee, Philadelphia, Pa.: Forage and grass crops, photographs.
- Bybee, R. L., Leorin, Idaho: White Russian oats.
- Byers, N. S., Pendleton, Oreg.: Wheat.
- Calhoun, A. A., Millerburg, Ohio: Seisure oats.
- Caldwell, E. W., Scottsboro, Ala.: Mixed red and white cob, Ohio White corn.
- California Packing Company, San Francisco, Cal.: Olives and olive oil.
- California Paris Commission (San Francisco Produce Exchange), San Francisco, Cal.
Collective exhibit of cereals for export.
- California Wharf House Company, Davisville, Cal.: Club wheat, barley.
- Carlock, W. J., Huntsville, Ark.: Bib white and Calico corn.
- Carneal, Thomas D., Livermore, Cal.: White admirable wheat.
- Carpenter, G. A., Watertown, S. Dak.: Wheat, maize, barley, oats, rye.
- Carrall, J. C., Ursula, Ark.: White corn.
- Carter, L. W., Highmore, S. Dak.: Millets and native grasses.
- Cartwright, M. T., County Line, N. Y.: Wheat.
- Chamberlain, E. E., Bluesprings, Nebr.: Maize.
- Chaffin, T. J., Chestnut Fork, Va.: Rust-proof winter oats.
- Chaney, J. C., Pittston, Va.: Blue-stem wheat.
- Chaney, J. R., Woodburn, Ky.: Winter oats, Currell's prolific wheat.
- Chavez, J. M. C., Abiquiu, N. Mex.: Wheat, oats, vallo beans, Chama Pelombrosa, native Indian, West Indian calico corn.
- Clark, D., Poplar City, Ill.: Maize.
- Clemons, L. W., Davenport, Iowa: Velvet blue-stem wheat, Iowa white-dent and Iowa golden-dent corn.
- Clevenger, C. E., Stevenson, Va.: Big White rye, White Western oats, Early Red Lyon, and Franklin Prolific wheat.
- Click, W. W., Elmwood, N. Dak.: Fulcaster wheat.
- Clore, L. B., Franklin, Ind.: Maize.
- Coins, J. N., Omega, Okla.: Late French millet.
- Colliver, R., Summers, Ark.: Iowa mixed dent corn.
- Colman, W. E., Broomfield, Colo.: Wheat.
- Commercial Club, Denton, Tex.: Blue-stem wheat, white corn.
- Commercial Club, Topeka, Kans., collective exhibit as follows:
Griffith, H., Belle Plaine, Kans.: Maize.
Hay, W. S., Menoken, Kans., Maize.
Hitchcock, J. S., Manhattan, Kans., Maize.
Hubbard, T. D., Kimball, Kans.: Maize.
Miller, B., Topeka, Kans.: Maize.
Rucker, W. G., Corning, Kans.: Maize.
- Conger Brothers, Mimosa, Tenn.: Fulcaster wheat, Huffman corn.
- Coontz, J. F., & Co., Vandalia, Mo.: Fultz wheat.
- Cooper, G. W., Corvallis, Oreg.: White winter wheat.
- Cooper, Ellwood, Santa Barbara, Cal.: Olive oil.
- Coppock, D. M., Pleasanthill, Ohio: Wheat, oats, barley, maize.
- Corbly, A. L., Springhill, Mont.: Oats.
- Corn exposition of Peoria, Ill.: Collective exhibit of Indian corn.
- Cotton, W. W., Portland, Oreg.: Wheat and oats in the straw.
- Courtright, J., Walnut, Ohio: Best Poole wheat, early yellow and Riber corn.
- Cousina, I. C., Erie, Mich.: Red Diehl wheat, oats.
- Coutts, D., Argyle, Minn.: Scotch Fife wheat.

- Cowan, R. T., Elmwood, N. C.: Improved Fultz wheat.
- Cox, C. A., Omega, Okla.: Barley.
- Cox, J. L., Missouri Valley, Iowa: Velvet Blue-stem wheat.
- Craighead, W. A., & Sons, Breckenridge, Tex.: Bald and Mediterranean wheat, black rye, corn, pop corn, White Kaffir corn.
- Craik, David, Oketo, Kans.: Millet, Turkey, Red Winter Fife wheat, oats.
- Cramsey, S., Conway, Kans.: Turkey wheat.
- Crandall, E., Walla Walla, Wash.: Blue-stem wheat in the straw.
- Crane, W. W., Tippecanoe City, Ohio.: Wheat, corn.
- Cranston, J. F., St. Cloud, Minn.: Velvet Blue-stem wheat, Nos. 1 and 2, white oats.
- Crawford, H. T., Belleville, Kans.: Maize.
- Crawford, W., Arcanum, Ohio: White bread corn.
- Creager, William H., Sumner, Iowa: Green Mountain oats in the straw, and oats.
- Creamer, E. L., jr., Frederick, Md.: Yellow Mastodon corn.
- Crenshaw, J. G., Knoblick, Ky.: Crenshaw's white wheat.
- Cress, C., Shippenburg, Pa.: Egyptian oats.
- Crosthwaite, C. W., Florence, Tenn.: Winter turf oats.
- Crothers, L. M., Crothers, Pa.: Duckbill barley, Gold Coin wheat, Golden Beauty corn.
- Culberson, C. H., Smyrna, Tenn.: Culberson's white corn.
- Cullimane, J., Denison, Tex.: Black oats.
- Currell, W. E., Gracepoint, Va.: Currell's Prolific wheat.
- Currie, S., Euclid, Minn.: Velvet blue-stem wheat.
- Dahl, A. P. R., Calera, Ala.: Red cob and white dent corn.
- Davis, A., Frederick, Md.: Longberry wheat, oats.
- Davis, J. A., Buxton, N. Dak.: Improved Velvet blue-stem wheat, white Russian oats, Manchuria barley.
- Dawes, J. M., Marshall, Mo.: Fultz wheat.
- Day, E. D., Lonepine, Pa.: Oats.
- De Land, C., Bluesprings, Nebr.: De Land's improved white corn.
- Denison Milling Company, Denison, Tex.: Mediterranean wheat.
- Department of Agriculture, Division of Agrostology, Washington, D. C.: Collective exhibit of food for animals, grasses and forage plants and utilization.
- Department of Agriculture, Division of Vegetable Physiology and Pathology, Washington, D. C.: Collective exhibit of new American varieties of export cereals.
- Dickerson, J. H., & Son, Burgin, Ky.: Red winter Fultz and Winter King wheat.
- Dickinson, The Albert, Company, Chicago: Collection of seeds of commercial importance in the United States and in the export trade.
- Diehl, E. F., Leesburg, Ind.: White rye in the straw, rye, Poole wheat.
- Doan, C. F., Doans, Tex.: Small golden millet, Haws corn.
- Dohm, C., Erie, Mich.: Side oats.
- Donaldson, C. S., Bowling Green, Ky.: Rust-proof oats.
- Dorsey, W., Whitehall, Va.: Maize.
- Doub, F., Keedysville, Md.: Red Warder wheat.
- Drew, C., Ardock, N. Dak.: White Russian oats, Manchuria barley.
- Duell, I. S., Woodstown, N. J.: Blue Stem wheat, corn.
- Duff, J. H. C., Fayetteville, Tenn.: White winter oats, winter bearded barley.
- East Washington Improvement Company, Lapwai, Idaho: Wheat.
- Edge Brothers, Colusa, Cal.: Barley.
- Eggart, W., Parkman, Wyo.: Silver-leaf oats.
- Ekman & Stow, Oroville, Cal.: Olive oil.
- Elliott & Burge, Corvallis, Oreg.: Wheat.
- Emanuel, J. M., Wray, Colo.: Early yellow dent corn, wheat, Goose oats, millet, sorghum.

- Emerson, S. F., Skowhegan, Me.: India buckwheat, white Russian oats.
- Enestvedt, O. O., Belview, Minn.: Minnesota No. 163 wheat.
- English, B. G., Manchester, Mich.: Rye, Johnson oats, Leaming corn, nigger wheat.
- Ennis, John E., Narcoossee, Fla.: Hay.
- Enoge, H., Loretta, S. Dak.: Emmer.
- Everitt, J. A., Indianapolis, Ind.: Fultz Mediterranean wheat.
- Experiment Station of North Dakota, Agricultural College, North Dakota: Wheat in the straw.
- Experiment Station, Corvallis, Oreg.: Feise and Kinney wheat, black winter oats.
- Fain, W. N., Nannie, Me.: Fulcaster wheat.
- Faught, A. E., Sidney, Me.: Blue-stem wheat, two-rowed barley, white winter rye, early field oats.
- Ferguson, W., Walla Walla, Wash.: Wheat and barley in the straw.
- Field, J. C., Denison, Tex.: Corn.
- Figard, J. W., Seward, Nebr.: Sea Island wheat, oats, Early White Prolific rye, Golden Dent corn.
- Fitch, C. E., Alwilda, S. Dak.: Seed of cultivated forage crops.
- Flowers, J. L., Colton, Wash.: Chevalier barley.
- Foreman, J. B., Arcanum, Ohio: Budy and white Fultz wheat.
- Foreman, N., Arcanum, Ohio: Wheat.
- Fox, T., Harrisonville, N. J.: Fulcaster wheat.
- Frankhouser, D. C., Fawcettgap, Va.: Fultz wheat.
- Frazier, R. A., Dayton, Wyo.: Squaw and flint corn.
- Freeman, W., Alpine, Ala.: Early Lay wheat.
- Fretwell, C. W., Parkfield, Cal.: Wheat.
- Gambill, T. H., Tuscumbia, Ala.: Bearded purple-straw wheat.
- Gammill, L. C., Subrosa, Ark.: Harvest king wheat, hickory king and Valentine mammoth corn.
- Gerrish, F. L., Boscawen, N. H.: White wonder oats, Walker corn.
- Giddings, F., Ayr, Nebr.: White Russian oats.
- Gidley, J., Sand Creek, Nebr.: Maize.
- Gilmore, W. H., Fairlee, Vt.: Maize, oats.
- Gillingham, G. L., Moorestown, N. J.: White and black mixed oats, winter Fife wheat, Japanese buckwheat, corn.
- Gilkey, W. T., Dayton, Oreg.: White winter oats, white spring barley, and varieties of wheat, winter alsike.
- Gilkey, W. T., Watsonville, Cal.: Grand Norway oats, Canada, Chevalier, and Chili barley, corn.
- Glass, A., Omega, Okla.: Wheat.
- Glucose Sugar Refining Company, Chicago: Gluten food for cattle and cornmeal.
- Gluyas, W. R., Hofflund, N. Dak.: Seed of smooth brome grass (*Bromus inermis*).
- Goodall, O. P., Lagrande, Oreg.: Winter wheats and winter barley.
- Goodell, C. J., Morocco, Ind.: Barley, oats.
- Grandin, J. L. & E. B., Mayville, N. Dak.: White Russian oats, wheat.
- Greene, R., and Sutton, George, Manchester, Mich.: Red Clawson wheat.
- Green, I. W., East Avon, N. Y.: Wheat.
- Griffin, G. M., Brighton, Colo.: Defiance wheat.
- Grim, D. A., Colfax, Wash.: Wheat.
- Grim, J. J., Aurora, Nebr.: Whiteside oats.
- Grotelmocke, H., Columbus, Nebr.: Turkey wheat.
- Guydel, H. W., Princeton, Ill.: Little white oats.
- Hade, J. P., Greencastle, Pa.: Spade wheat, peerless rye, wonder oats, winter barley, Golden Dent corn.

- Hager, G., Colusa, Cal.: California wheat.
- Haines, J. J., Cribbs, Pa.: Longberry wheat, spring barley, American banner oats.
- Hammond, E. E., Olathe, Colo.: Defiance wheat, white Russian oats.
- Hancock, W. H., Shullsburg, Wis.: Peerless barley, winter rye.
- Hardeman, T., Davisboro, Ga.: Bearded rust-proof oats, red-cob corn.
- Hargett, S., Frederick, Md.: Barley, buckwheat.
- Harmon, E. R., Clifton, N. Y.: No. 6 Mediterranean wheat, German four-rowed barley.
- Harris, C. G., Marsh, N. C.: Fultz wheat, white gourd seed corn.
- Hawkins, B. C., Highlands, N. C.: Corn.
- Hawley & Moody, Oasis, Mich.: Alfalfa or lucern seed.
- Haynes Brothers, Emporia, Kans.: Corn.
- Hays, J. B., Matson, Mo.: Black oats.
- Hays, J. C., Versailles, Ky.: Fultz wheat.
- Heater, C. W., Middletown, Va.: Wheat, spring oats, barley, mammoth white corn.
- Heideman, W. H., Kalispell, Mont.: Rape seed.
- Hellbaum, F., Latah, Wash.: Wheat, barley, oats.
- Helzinger, G., Perkins, S. Dak.: Wheat.
- Hesla, E. S., Westerville, S. Dak.: Silver mine corn.
- Hickman, Prof. J., Freemont, Wooster, Ohio: Forage and grass crops. Photographs.
- Hickman, J. F., East Liverpool, Ohio: Oats.
- Hill, Charles L., Rosendale, Wis.: White Fife wheat, white cap corn.
- Hill, E. C., Anson, Tex.: Dhoura corn.
- Hill, H. P., Kersey, Colo.: Australian defiance wheat, white Russian oats.
- Hill, John, Elgin, Ore.: Silver chaff white winter wheat.
- Hoag, Jay, Adrian, Mich.: Gold Coin wheat.
- Hodgin, E. N., Guilford College, N. C.: Fulcaster wheat, strawberry and white Flint corn.
- Hoff, G. M., Biggs, Ill.: Maize.
- Holms, William S., Marshall, Mo.: Texas red rust-proof oats, golden beauty corn.
- Hood, W. M., Laporte, Ind.: Buckwheat.
- Hoover, C. C., Hagerstown, Md.: Mortgage lifter oats.
- Hopkins, Prof. A. D., Morgantown, W. Va.: Timothy.
- Hopkins, J. T., Butteville, Ore.: Wheat in the straw.
- Horsley, W. B., Rogers, Ark.: Fulcaster wheat, rust-proof and early white oats, Strawberry and Willie white corn.
- Houx, Mrs. E. M., Colusa, Cal.: California club wheat.
- Howard, Hiram, Marshall, Mo.: Pride of Saline and Uncle Sam's corn.
- Hoyt, J. K., Luther, N. C.: Fulcaster wheat, winter oats, Japanese buckwheat, Morgan white corn.
- Hoyt, G. W., Millbank, S. Dak.: White Russian oats.
- Huff, B. F., Denison, Iowa: White Russian oats, Sayler's Marvel spring wheat, Yellow Dent corn.
- Hug, H., Elgin, Ore.: Chili club and Canada club mixed wheat.
- Huggins, J. H., Carrollton, Tex.: Silver chaff wheat, rust-proof and white-spring oats, Blue Jane and Strawberry corn.
- Huggins, W. A., Cave City, Ky.: Silver and Everett's red corn, Fulcaster wheat.
- Hughes, M. O., Bowling Green, Ky.: Fulcaster wheat.
- Hurt, J. H., Hollywood, Ala.: Mediterranean wheat.
- Hutton, W. H., Monticello, Ind.: Wheat, maize.
- Illinois State Grain Inspection, Chicago: Wheat, oats, barley, rye, corn, of commercial grades.
- Imboden, H., Wichita, Kans.: Turkey wheat.

- International Food Company, Minneapolis, Minn.: Foods for cattle.
- Jackson, T. W., Prairie Point, Miss.: Corn, peanuts.
- Jacobson, L. A., Hope, N. Dak.: Spring rye.
- Jacoby, Peter, Aurora, Nebr.: Corn.
- Jennings, Mrs. S., Mayview, Mo.: Pride of Lafayette rye.
- Jewell Nursery Company, Lake City, Minn.: Silver white oats.
- Johns, W., Thatcher, Ariz.: Australian wheat.
- Johnson, D. B., Mooresville, Ind.: Michigan amber wheat.
- Johnson, D. F., Horeb, Va.: Fultz wheat.
- Jolly, William, Corvallis, Oreg.: Little Club wheat, white Russian oats.
- Jones, A. N., Newark, N. Y.: Wheat heads, thrashed grain.
- Jones, J. J., Broomfield, Colo.: Wheat.
- Kaufman, J. C., Dauberville, Pa.: China wheat, white rye.
- Kearcher, L. M., Millbank, S. Dak.: Velvet blue-stem wheat.
- Keefe, D. G., Maine, Minn.: Blue-stem wheat, Lincoln and white Russian oats, Minnesota corn.
- Keeny, J. W., Erie, Mich.: Corn.
- Kenney, S. H., & Son, Morristown, Minn.: Minnesota early amber sugar cane.
- Kentucky Agricultural Experiment Station, Lexington, Ky.: Wheat.
- Kerr, G. G., Newark, Del.; Deitz, Longberry, and Fulcaster wheat, Golden Dent corn, grass seed.
- Kiger, R. C., Corvallis, Oreg.: Wheat in straw.
- Kilborne, F. L., Kelloggsville, N. Y.: Wheat, white oats, barley, corn.
- Kilen, A. R., Brownsburg, Minn.: Barley, Velvet blue-stem wheat, oats, corn, timothy.
- Killen, J. S., Minden, La.: Red rust-proof oats, corn, fescue grass.
- Killian, G. H., Concho, Ariz.: Wheat.
- Kjar, J. C., Manti, Utah: Oats.
- Klein Bros., Cameron, Mo.: Wheat.
- Kohler, John, Morrisonville, Mo.: Commercial red clover.
- Kohler, W. A., Leesburg, Ind.: Buckwheat.
- Kohn, J. J., Walla Walla, Wash.: Barley.
- Koiner, W. F., Ladd, Va.: Early yellow corn.
- Koser, D. C., Shippensburg, Pa.: Mediterranean wheat.
- Kramer, G., Strausstown, Pa.: White barley.
- Lake Shore and Michigan Southern Railway Company, Toledo, Ohio.: Winter wheat of commercial grades.
- Lamb, A. H., Oak Center, Minn.: Manchuria barley.
- Lambie, W., Mayview, Wash.: Palouse blue-stem, Little club wheat, barley.
- Lampton, A. P., China Grove, Miss.: Oats, corn.
- Landis, J. M., Marlow, W. Va.: Red-chaff wheat, beardless barley.
- Lang, Jacob, Hope, N. Dak.: Broom corn.
- Larimore, J. J., Hope, N. Dak.: Oats.
- Larson, L. A., Lincoln, S. Dak.: Barley.
- Laison, L. M., Millville, Utah.: Wheat.
- Later, P., Harrisville, Utah.: Taos wheat, corn.
- Lawrence, D. G., Burnett Junction, Wis.: Child's golden superb corn.
- Leaming, P. S., Wilmington, Ohio.: Maize.
- Leckenby, A. B., Portland, Oreg.: Collection of Northwestern forage crops and grasses.
- Lehnert, G. A., Tuscumbia, Ala.: Longhead bearded barley.
- Lenz, Henry, Tuscumbia, Ala.: Miller rye, wheat, corn.
- Lewis, J. N., Lima, Ark.: Red-bearded wheat, corn, oats.
- Lewis, O. K., Arlington, Nebr.: Velvet-chaff wheat.

- Liddell, J., West Somerset, N. Y.: Wheat.
- Livingston, M. W., Town, Ga.: Rice.
- Loseke, G., Columbus, Ohio: White Russian oats.
- Louden, W., Maine Prairie, Minn.: Corn.
- Lowman, W. M., Hastings, Nebr.: Mammoth white corn.
- Lowry, J. G., Cartersville, Ga.: Fulcaster wheat, Gourd Seed corn, California winter oats, Georgia rye.
- Lyon, W. E., Appleton, N. Y.: Buckwheat.
- Lytle, J. W., Alicel, Oreg.: Wheat.
- McAllister, J. W., Lagrange, Oreg.: Forty-fold wheat.
- McBeth, J., Monticello, Ind.: Wheat, maize.
- McCardells, A. C., Frederick, Md.: McCardell's ruddy wheat, corn.
- McClendon, R. T., Lisbon, La.: Corn.
- McCloud, J. A., Lowell, Ark.: Everett wheat.
- McCutchen, W. W., Scottsboro, Ala.: Broughton wheat.
- McDonald, M., Appleton, N. Y.: Oats.
- McGregor, J. D., Murfreesboro, Tenn.: Wheat.
- McHenry, O., Modesto, Cal.: Golden gate club and white Australian wheat, black rye, white Dent corn.
- McNeal, J. M., McRae, Ga.: German millet.
- McNear, G. W., San Francisco, Cal.: Wheat.
- Magic Food Company, St. Louis, Mo.: Stock and poultry foods.
- Manard, F., jr., Jackson, Mich.: Wheat.
- Manget, John A., Marietta, Ga.: Forage crops.
- Mann, J., Watsonville, Cal.: Wheat.
- March, John A., Shullsburg, Wis.: Corn.
- Mareks, A., Lexington, Mo.: Mediterranean wheat, black Texas oats, Charles white corn.
- Mariner, F. C., Northville, S. Dak.: Mediterranean Fife and Scotch Fife wheat, winter rye.
- Markel, E., Monticello, Ill.: Pop corn.
- Markert, J. M., Parkman, Wyo.: White hull-less barley.
- Markham, R., Clear Lake, Minn.: Corn.
- Martin, E. J., Nannie, Ga.: Maryland Flint wheat.
- Martin, G. S., Lonoke, Tenn.: Wheat, maize.
- Martin, H. M., Masontown, W. Va.: Black Spanish, red rust-proof oats, red Russian wheat.
- Martin, T. B., Fairforest, S. C.: Dewey oats, purple-straw wheat.
- Maryland Agricultural Experiment Station, College Park, Md.: Wheat, maize, emmer.
- Mason, E. J., Centerville, Ga.: Purple-straw wheat, rye, oats, corn.
- Mason, J. C., Winchester, Va.: Maize.
- Matson, W. H., Matson, Mo.: Black rye, Eight-Rowed Matson yellow, and St. Charles white corn.
- Mathews, Owen, Allen, Tex.: Golden-chaff, Nicaragua wheat, oats, soft-grained stock corn.
- Matthews, W. R. H., Southport, Tenn.: Fultz wheat, Burt oats, Tennessee Dent corn.
- Maynard, E. A., Ennis, Mont.: Barley.
- Messenburg, F., St. Cloud, Minn.: White Russian oats.
- Metcalfe, J. N., Silver Hill, N. Mex.: Seeds, specimens, and hay of native grasses and forage plants.
- Meyer, F. W., Bonny, Tex.: Hay, hay seed.
- Miller, Adam, jr., Tonica, Ill.: Corn, White Banner oats.

- Miller, C., Sapulpa, Ind. T.: Poole wheat.
 Miller, C., Langdon, Mo.: Barley.
 Miller, C. D., Hodgenville, Ky.: Wheat.
 Miller, D., Great Bend, Kans.: Wheat.
 Mitchell, A. E., Clearwater, Minn.: Side oats.
 Moffet, F. L., Chillicothe, Kans.: Corn, millet, oats.
 Moffett, J. M., Boody, Ill.: Maize.
 Morningstar, P. H., Utica Mills, Md.: Long Derby wheat, White hominy corn.
 Morrin, J. & L., Erie, Mich.: Barley.
 Morris, J. F., Ireton, Iowa: Velvet blue-stem wheat, champion side oats, mansard barley, corn.
 Mudges, F. E., La Salle, Ill.: Corn.
 Mumma, A. L., Mechanicsburg, Ohio: Corn.
 Murphy, S. H., Caledonia, Minn.: Blue Peter pea.
 Myers, D. W., Lone Pine, Pa.: Wheat, maize.
 Nash, J. D., Chauncey, Ga.: Oats, rice.
 National Starch Manufacturing Company, The, New York: Corn oil, gluten food, gluten meal, corn cake, corn.
 Naylor, J. L., Moscow, Idaho: Red Russian, little club wheat, barley.
 Neal, D., Watertown, Tex.: Rye.
 Neal, U. W., Watertown, Tenn.: Rye, Fultz wheat.
 Neal, A. S., Conway, Kans.: Oats.
 Neely, F. L., Wayne, Nebr.: Fife wheat.
 Neff, John, Tusculumbia, Ala.: Corn.
 Nelson, Mr., Coleman, Tex.: German millet.
 Nelson, N., Colfax, Wash.: Barley, oats.
 Nelson, R. C., Woodbine, Tex.: Fulkerson Mediterranean wheat, oats, corn.
 Newell, A., Damascus, Oreg.: Wheat.
 New Mexico Agricultural Experiment Station, Mesilla Park, N. Mex.: Wheat.
 New Orleans Board of Trade, New Orleans, La., collective exhibit as follows:
 National Rice Milling Company, New Orleans, La.: Rice and rice screenings.
 Rickert, F., jr., New Orleans, La.: Rice (hulled).
 Newton, G. G., Corvallis, Oreg.: Gray oats.
 Nicodemus, C. A., Walkersville, Md.: Australian, Rocky Mountain wheat, barley, Golden Beauty corn.
 Niemoller, A. F., Stitt, Kans.: Red Texas oats.
 Noyes, G. R., Beaver Dam, Wis.: Russian Fife wheat.
 Oakley, E. P., Rogers, Ark.: Wheat.
 Oelrich, Herman, Columbus, Nebr.: Corn.
 Oelrich, Herman, & Bros., Columbus, Nebr.: Early Olderburgs oats.
 Oregon Agricultural Experiment Station, Corvallis, Oreg.: Collective exhibit—
 Bohannon, W., Corvallis, Oreg., oats.
 Jolly, W., Corvallis, Oreg., wheat.
 Lewton, G. G., Corvallis, Oreg., oats.
 Oregon Experiment Station, Corvallis, Oreg., wheat and oats.
 Oregon Railroad and Navigation Company, Portland, Oreg.: Collective exhibit—
 Babcock, W. C., Prescott, Wash., wheat.
 Baker, H., Walla Walla, Wash., wheat.
 Bowles, J. H., Prescott, Wash., wheat.
 Colburn, P. E., Athena, Oreg., wheat.
 Cotton, W. W., Portland, Oreg., wheat.
 Cox, D. H., Valley Grove, Wash., wheat.
 Davies, T. G., Walla Walla, Wash., wheat.

Oregon Railroad and Navigation Company, Portland, Oreg., etc.—Continued

- Davis, J. E., Moscow, Idaho, oats.
 Demans, O., Dixie, Wash., wheat.
 Eldridge, H. D., Dixie, Wash., wheat.
 Eusler, R., Moscow, Idaho, barley.
 Ferguson, D. G., Walla Walla, Wash., wheat.
 Field, F. R., Walla Walla, Wash., wheat.
 Blathers, B., Prescott, Wash., wheat.
 French, H. F., Moscow, Idaho, barley.
 French, H. T., Moscow, Idaho, wheat.
 Gilkerson, T., Walla Walla, Wash., barley, wheat.
 Gosseling, A., Moscow, Idaho, wheat.
 Hancock, T., Walla Walla, Wash., wheat.
 Harbert, J. W., Walla Walla, Wash., wheat.
 Harkins, G., Prescott, Wash., wheat.
 Harrison, J., Moscow, Idaho, wheat.
 Hoffman, H., Colfax, Wash., oats.
 Hollingsworth, H. S., Colfax, Wash., wheat.
 Hopkins, J. T., Butteville, Oreg., wheat.
 Howard, H. W., Colfax, Wash., wheat.
 Hucford, H. F., Colfax, Wash., wheat.
 Hunter, W., Moscow, Idaho, wheat.
 Kelly, D. J., Dixie, Wash., wheat.
 Kirkman, Mrs. W., Walla Walla, Wash., wheat.
 Koch, H., Denmark, Wash., wheat.
 Law, G. W., Colfax, Wash., wheat.
 McGahey, R., Walla Walla, Wash., barley.
 McKenzie, A., Moscow, Idaho, wheat.
 Matlock, T. B., Colfax, Wash., wheat.
 Minnick, J., Waitsburg, Wash., wheat.
 Minnick, W., Dixie, Wash., barley.
 Moore, M. C., Walla Walla, Wash., wheat.
 Myers, J. E., Walla Walla, Wash., wheat.
 Oregon Railroad and Navigation Company's experiment farm, Walla Walla, Wash., wheat, barley, oats.
 Patterson, N. A., Prescott, Wash., wheat.
 Radliff, C. L., Dixie, Wash., wheat.
 Reaser, P., Walla Walla, Wash., wheat.
 Reaser, W. P., Walla Walla, Wash., wheat.
 Rock, J., Diamond, Wash., wheat.
 Sams, N., Athena, Oreg., wheat.
 Scott, W. J., Walla Walla, Wash., wheat.
 Shields, M. J., Moscow, Idaho, wheat.
 Thomas, W. B., Walla Walla, Wash., wheat.
 Tongstreet, G. N., Moscow, Idaho, wheat.
 Utter, J., Prescott, Wash., wheat.
 Vincent, H., Prescott, Wash., wheat.
 Washington Agricultural Experiment Station, Pullman, Wash., wheat, oats, barley.
 Yennicy, P., Walla Walla, Wash., wheat.
 Overstreet, J. R., Franklin, Ind.: Overstreet peerless, Overstreet wonder, Speckles wonder corn.
 Pacific Coast Elevator Company, Portland Oreg.: Wheat of commercial grades.

- Parke, W. U., Worthing, S. Dak.: German millet, Side, Northern Scotch white oats, corn.
- Parkinson, W. W., Pleasant Grove, Minn.: Blue stem wheat; red winter, early white barley; early white and New Zealand oats; corn.
- Parks, J. S., Pleasant Mounds, Minn.: Red Blaze corn.
- Pattison, A. S., Marengo, Mich.: Red Clawson, Dawson golden chaff, nigger wheat, white Russian oats.
- Patton, R. H., Watertown, Tenn.: Fultz wheat.
- Paugh, E., Ennis, Mont.: Australian club wheat.
- Pawlich, J., Crete, Nebr.: Turkey wheat.
- Payne, J. C., Rockville, Minn.: Corn.
- Peacock, A. L., Higginsville, Mo.: Red Fultz wheat.
- Pearce, T. M., Manor, Md.: Howards barley, buckwheat, white dent corn.
- Peddicord, John, Wichita, Kans.: Golden beauty corn.
- Peeler, I., Center, Miss.: Corn.
- Peoria Corn Exposition, Peoria, Ill.: Maize.
- Perry, William, Aurora, Nebr.: Corn.
- Peterson, W. C., Longshore, S. C.: Wheat, oats, corn.
- Phillips, J. M., & Son, Mercersburg, Pa.: Beardless barley, corn.
- Phillips, P. R., Huntsville, Ala.: Orange wheat.
- Phillips, W. R., Green Forest, Ark.: Early white oats. wild goose corn.
- Pierce, W., Lagrande, Oreg.: Wheat.
- Pillsbury-Washburn Flour Mills Company, Minneapolis, Minn.: Wheat, commercial grades.
- Pittman, D. W., Lewiston, Ill.: Fultz wheat, white oats, rye, corn.
- Plasterer, J. B., Shippensburg, Pa.: Ruddy wheat.
- Plattner, J., Scotland, S. Dak.: Corn.
- Porcher, W. D., Charleston, S. C.: Gold seed head, wheat seed head, rice.
- Porter, E. A., Bowling Green, Ky.: White runer corn.
- Poulson, P., Richfield, Utah: Black Spanish oats.
- Price, H. J., Delta, Colo.: Odessa wheat, white Russian oats.
- Ranons, Mrs. L. P., Millbank, S. Dak.: Hard Fife wheat.
- Ratliff, J. T., Richmond, Ind.: Rye in the straw.
- Ratliff, W. S., Richmond, Ind.: New Columbia wheat, oats.
- Ray, Andrews, & Co., Salt Lake, Utah: Alfalfa seed.
- Record, J. H., Decatur, Ill.: Clydesdale oats.
- Rediger, C., Aurora, Nebr.: Turkey wheat.
- Reeder, E., New Hope, Pa.: Wheat, oats, buckwheat, corn.
- Reeves, H. O., Huntsville, Ark.: Maize.
- Reichard, R., Arcanum, Ohio: Corn.
- Reichenbach, L. C., Apple Creek, Ohio: Wheat.
- Reith, J., jr., Davisville, Cal.: Barley.
- Rene, W. T., Neche, N. Dak.: Scotch barley, Scotch Fife wheat, white Russian squaw corn, oats.
- Renk, W. F., Sun Prairie, Wis.: Lincoln oats.
- Resh, S., Broad Fording, Md.: Black Tartarian and Green Mountain oats.
- Reynolds, E., Banksville, N. Y.: Bald Blue-stem bearded wheat, winter rye.
- Richardson & Co., Chicago.: Wheat, corn.
- Richardson, Thomas V., Phoenix, Md.: Johnson's yellow corn.
- Richmond, John F., Richmond, Ind.: Beggar weed hay.
- Richmond, O., Tyndall, S. Dak.: Oats, barley, Sure Crop corn.
- Rickard, E. T., Grinnell, Iowa: Corn.
- Rine, J. M., Wells, W. Va.: Red Clawson wheat, white Russian oats, early Dent corn.

- Roatcap, Mrs. B. A., Olathe, Colo.: Nebraska white oats, angel of midnight corn.
- Roatcap, D. S., Olathe, Colo.: Maize.
- Robbins, D. E., Payson, Ill.: Wheat.
- Roberts, Prof. I. P., Ithaca, N. Y.: Forage and grass crops. Photographs.
- Roberts, J., Iona, Mich.: Rye.
- Robertson, J. T., Florence, Tenn.: Selts Improved corn.
- Robinson, Alexander McK., Ada, Tex.: Velvet bean seed.
- Robinson, A. S., Pleasant Mounds, Minn.: Velvet blue-stem wheat.
- Robinson, C., Clear Lake, Minn.: Rye.
- Robinson, J., Pleasant Mounds, Minn.: Velvet blue-stem wheat, black winter rye.
- Roderick, G., Frederick, Md.: Fulcaster wheat.
- Rogers, G. W., Laporte, Ind.: Corn, rye, barley, oats.
- Rohilly, P. H., Lake City, Minn.: Barley.
- Root and Cain, Versailles, Ky.: Terry Fultz wheat.
- Ross, J. R., Doans, Tex.: Rose Prolific corn.
- Rowe, Frank, Shullsburg, Wis.: Snowflake corn.
- Ruppe, A., Pendleton, Oreg.: Blue-stem wheat, Cox red chaff, and Sonora wheat.
- Russell, D. B., Shippensburg, Pa.: Dietz wheat.
- St. German, N. C., Corvallis, Oreg.: Wheat in the straw.
- Salisbury, Mrs. Lydia, A., Blue Mound, Ill.: White squaw corn.
- Salzer, J. A., Seed Company, La Crosse, Wis.: Winter wheat.
- Sawyer, J. J., Alpine, Ala.: Purple-stem wheat, blue-stem wheat.
- Scarborough, J. K., Payson, Ill.: Fultz wheat, Northern white oats, Feeders Favorite white corn.
- Scheer, Frank, Arlington, Nebr.: White Pearl corn.
- Schiermier, W., Cappeln, Mo.: Fultz wheat.
- Schindel, S. M., Hagerstown, Md.: New variety of Blue Ridge wheat, wheat in the straw.
- Schriber, H. F., Colfax, Wash.: Bonanza oats.
- Schuttler and Hotz, Chicago: White Dent corn.
- Scott, J., Plain City, Ohio: Fultz wheat, Michigan amber wheat straw.
- Scott and Magner, San Francisco, Cal.: Stock foods, meal, baled hay.
- Seaver Brothers, Colusa, Cal.: Corn.
- Seitz, J., Tiffin, Ohio: Fultz, Gold Coin wheat, Lentz & Seiples, Hybrid corn.
- Seville Packing Company, New York City: Olives, pimolas, olive oil.
- Shahan, I. T., Green Forest, Ark.: Maize.
- Shaw, E. L., West Hampden, Me.: Lost Nation wheat, White Hogan oats, large Canada corn.
- Sheldon, C. H., Minnewaukon, N. Dak.: Scotch Fife wheat.
- Shelley, G. E., Manor, Md.: Fultz wheat.
- Shelton, D. A., Rome, Ga.: Red rust-proof oats.
- Shepard, Prof. James H., Brookings, S. Dak.: Forage crops, photographs.
- Shepperson, Daniel W., Langdon, Mo.: Branching Dhoura corn, rye, oats.
- Sherfey, C. W., Nebraska City, Nebr.: Yellow Turkey wheat, Silver Mine white oats, Prolific White red cob, and other corn.
- Shoemaker, P. H., Freeport, Minn.: Big four oats.
- Shofner, L. M., Mulberry, Tenn.: Poole wheat.
- Shouse, S. H., Versailles, Ky.: Kentucky blue grass corn.
- Showalter, S. J., Ladd, Va.: Wheat, mixed Virginia milling.
- Shutts, W., Wichita, Kans.: White pearl corn.
- Siljan, C. H., Madison, Minn.: Golden giant oats.
- Silverberg, J., Owens Ferry, Ga.: Rice.
- Simpson, J. B., Dallas, Tex.: Nicaragua wheat.

- Simpson, J. B., and Gibbs, B., Dallas, Tex.: Nicaragua wheat.
 Simpson, J. E., Norfolk, Nebr.: Corn.
 Slade, C. C., Manor, Md.: Gold Berry red wheat.
 Smith, A. T., Lexington, Mo.: Fultz wheat.
 Smith, F., Brighton, Cal.: White Sonora wheat.
 Smith, G. A., Yankton, S. Dak.: Pease, timothy, Velvet blue-stem wheat, oats, corn, popcorn, barley.
 Smith, H. C., Fremont, Ohio: Poole Ruddy Valley wheat, Potato and Michigan Wonder oats, corn.
 Smith, J. O., Casselton, N. Dak.: Red Mediterranean wheat.
 Smith, Julius P., Livermore, Cal.: Olive oil.
 Smith, O., Sapulpa, Ind. T.: Fultz wheat.
 Smith, O. W., Spring Hill, Mont.: Wheat.
 Smith Brothers, Corvallis, Oreg.: Wheat.
 Smith, S. A., Blue Springs, Nebr.: Black rye, Side oats.
 Smith, W. D., Athon, Tex.: Early amber sorghum, wheat, oats, corn, Big German millet.
 Smurthwaite, A., Produce Company, Ogden, Utah: Alfalfa and timothy seed.
 Snowden, F., Ashton, Md.: Fultz wheat, rye, oats, corn.
 Sommerkamp, R. P., Kamp, Ala.: Upland rice.
 Southern Cotton Oil Company, Memphis, Tenn.: Cotton-seed products used as food.
 Southern Railway Company, Washington, D. C.: Collective exhibit, as follows:
 Endly, G. A., Chase City, Va., winter rye.
 Fort, J. P., Mount Airy, Ga., rye.
 Georgia Agricultural Experiment Station, Experiment, Ga., oats.
 McAllister, S. A., Columbus, Ga., wheat.
 Walker, R. L., Graham, N. C., wheat.
 Walker, W. J., Somerset, Va., oats.
 Soverhill, S. G., Tiskilwa, Ill.: Early Swedish oats, barley, corn.
 Spencer, E. E., Edgar, N. C.: White winter oats.
 Spenker, James F., Riverbank, Cal.: Corn.
 Spore, Z. S., Halstead, Kans.: Maize.
 Sprague, H., Ionia, Mich.: Dawson's golden chaff wheat.
 Spratt's Patent, Limited, New York City: Prepared food for dogs, poultry, game.
 Sprawls, W. L., Burk Place, La.: Corn.
 Staples, L. O., St. Joseph, Minn.: Bearded spring barley.
 Steffen, A., Grundy Center, Iowa: Black early white oats, barley, rye.
 Stephen, W. F., Harrisonville, Mo.: Timothy.
 Stevens, T., Malad City, Idaho: Odessa Fall, Spring Sonora, White amber, white club spring wheat, potato, and white Side oats.
 Stewart, P. M., Woodstown, N. J.: Golden hominy corn.
 Stine, Fred., Walla Walla, Wash.: Little club wheat, straw.
 Stock, W. H., Kidder, Mo.: Wheat.
 Stokes, W. H., Watertown, S. Dak.: Maize, Velvet blue-stem wheat, oats.
 Stouffer, J., Hagerstown, Md.: Lancaster, Dietz, and red wonder wheat, Stauffen's yellow dent corn.
 Strom, H. H., Hillsboro, N. Dak.: Hayne's blue stem, Saskatchewan Fife wheat, Russian white oats.
 Stuart, J. A., Lyndhurst, Va.: Mixed Fultz and Fulcaster wheat, rye, corn.
 Stuckey, J. L.: Wichita, Kans.: Big May wheat.
 Sullivan, J. E., Pilot Point, Tex.: Maize.
 Sutton, G., Manchester, Mich.: Cereals.
 Swanders, E. H., Wood, Ohio: Golden chaff wheat.
 Taft, Austin S., Weston, Ohio: Clover, barley, oats, wheat, corn.

- Talant, A. W., Cuba, Ga.: Corn.
- Talant, F. H., Cuba, Ga.: Turf oats, red fall wheat.
- Tallman, H. B., Tecumseh, Mich.: Ruddy wheat, silver hull buckwheat, corn.
- Taylor, A., Harrisonville, Mo.: Maize.
- Taylor, A., Solomon, Kans.: Maize.
- Taylor, N. H., Henderson, Colo.: Corn.
- Taylor, P. H., Harrisonville, Mo.: Texas oats, blue-stem wheat, clover, timothy, corn.
- Tegt, Mrs. E., Arlington, Nebr.: White Russian Side oats.
- Templeton, W. E., Ursula, Ark.: Fulcaster wheat.
- Tenney, S. A., Newport, N. H.: Mortgage Lifter oats, early Walpole corn.
- Thomas, Samuel, Marshall, Mo.: Mammoth white corn.
- Thorburn, J. M., & Co., New York City: Grain, ensilage, and fodder corn, corn.
- Towson, W. P., Hagerstown, Md.: Fultz wheat.
- Trumbull & Beebe, San Francisco, Cal.: Legumes, grass, clover, and other seeds.
- Trump, W., Arcanum, Ohio: Oats.
- Tucker, E. F., Araby, Md.: Fulcaster wheat, golden beauty corn.
- Turner, G. W., Fair Forest, S. C.: Turf oats.
- Underwood, S. G., Council Bluffs, Iowa: White Russian oats, oats in the straw.
- Union Oil Company, 204 Carondelet street, New Orleans, La.: Cotton-seed cake, meal, hulls; cotton-seed cake, cotton-seed meal, bolted or unbolted; cotton-seed hulls for feeding and fertilizing.
- Vaden, J. H., Laurel Grove, Va.: Currell's prolific wheat.
- Van Slyke, Ionia, Mich.: Oats.
- Venable, A. R., Farnville, Va.: Bearded Fulcaster, Currell's prolific, Fultz wheat.
- Vine, Emory, Miles City, Mont.: Plants and seed of alfalfa, smooth brome and native grasses.
- Voorhees, Dr. E. B., New Brunswick, N. J.: Forage crops and methods of making ensilage. Photographs.
- Vorce, H., Muir, Mich.: Signal wheat.
- Vosbrink, George P., 69 South Water street, Chicago: Bird seeds, food for canary birds.
- Wade, T. B., Wales, Tenn.: Wheat.
- Wagner, W., Parkman, Wyo.: English Fife wheat.
- Waite, W. S., Wartrace, Tenn.: Peas, Fulcaster wheat, corn.
- Walden, W. A., Huntsville, Ark.: Wheat, oats.
- Waldron, C. A., Ionia, Mich.: Hathaway Dent corn.
- Walker, W. F., Aberdeen, Miss.: Maize.
- Walker, W. P., Griffin, Ga.: Red and purple straw wheat.
- Walters, J., La Salle, Mich.: Hybrid Mediterranean wheat.
- Walters, Moses, Trickham, Tex.: African and German millet, red top sorghum, wheat, oats, corn.
- Walton, I. N., Allensville, Ky.: Gill wheat, Improved Willis corn.
- Walton, J. W., Spring Hill, Mont.: Wheat.
- Warner, G. E., Clearwater, Minn.: Scotch Fife wheat.
- Warner, H. C., Forestburg, S. Dak.: Millets and native grasses, wheat, rye, Nepaul hull-less barley, oats, corn.
- Washington Agricultural Experiment Station, Pullman, Wash.: Wheat, oats, barley.
- Watson, D. A., Lebanon, Kans.: Golden gem corn.
- Weirick, G. S., Wichita, Kans.: Texas red oats.
- West Point Mill Company, Charlestown, S. C.: Rice, rice straw.
- Whatley, S. J., Nannie, Ga.: Turf oats, little red cob corn.
- Wheeler, T. C., Watertown, Tenn.: Corn.

- White, E. M., Hagerstown, Md.: Fulcaster, Fultz wheat.
- White, J. A., Hope, N. Dak.: Wheat, Velvet blue stem, Scotch Fife.
- Whiteley, John, Greenville, Ohio: Wheat.
- Whitsell, J. C., Elon College, N. C.: Kivit and Fulcaster wheat, Dexter winter rye, oats, Holt Wilhide corn.
- Whitney, Charles, Walla Walla, Wash.: White oats in the straw.
- Whitney-Noyes Seed Company, The, Buffalo, N. Y.: Collection of clover and other seeds cleansed by special process.
- Williams, A. E., Cameron, Mo.: Maize.
- Willson, J. R., Shortsville, N. Y.: Wheat.
- Wing, J. E., Mechanicsburg, Ohio: Beardless barley.
- Wingo, J. W., Montrose, S. C.: Boughton wheat, Baldwin white corn.
- Williams, Henry, Spring Ranch, Nebr.: Red club wheat.
- Williams, P. N., Salem, N. C.: Beardless Fulcaster wheat, rye, black spring oats, white corn.
- Wilson, James, Secretary of Agriculture, Washington, D. C.: Collective exhibit of manufactures from corn.
- Wilson, John A., Chestnut Park, Va.: Mammoth white corn.
- Wilson, J. H., Kenton, Tenn.: Little May wheat, Willis corn.
- Wolfrum, J. G., Bunceton, Mo.: White rye.
- Wood, T. W., & Sons, Richmond, Va.: Forage and grass crops, wheat, rye, barley, oats.
- Wright, E. H., Salem, Ind.: Improved Leaming corn.
- Wright, R., Summers, Ark.: Corn.
- Yates, J., Colusa, Cal.: White barley.
- Young, A. P., Lexington, Mo.: Rough and ready corn.
- Young, Rufus, Lexington, Mo.: Sugar corn.
- Yowell, P. J., Fremont, Kans.: Corn.
- Yunker, P. N., Lemitar, N. Mex.: Barley, wheat, oats, maize.
- Zeller, W. N., Shippensburg, Pa.: Mediterranean wheat.

CLASS 40.—*Animal food products.*

- American Condensed Milk Company, San Francisco, Cal.: Milk, condensed, evaporated.
- Armour & Co., Chicago: Butter, frozen eggs.
- Borden's Condensed Milk Company, New York City: Condensed milk, evaporated cream, condensed coffee; Gail Borden's Eagle brand condensed milk; Borden's Peerless brand evaporated cream; Borden's Eagle brand condensed coffee.
- Dairymen's Union, San Francisco, Cal.: Milk, cream, butter.
- De Land, A. D., Sheboygan, Wis.: Cheese.
- Department of Agriculture, United States, Dairy Division, Bureau of Animal Industry, Washington, D. C.: Collective exhibit of dairy products, milk, cream, butter, and cheese. Contributors:
- Briarcliff Farms, Briarcliff Manor, N. H., butter.
 - Brush, Dr., New York, kumys.
 - Candor, John R., Pittsford, Vt., butter.
 - Casper, P. H., Nicholson, Wis., butter.
 - Chandler & Rood Company, Cleveland, Ohio, butter.
 - College Creamery, Ames, Iowa, butter.
 - Dawley, F. E., Fayetteville, N. Y., butter.
 - Elgin Creamery Company, Chicago, butter.
 - Embich, Charles W., Lancaster, Ohio, butter.
 - Farmers' Mutual Creamery, St. Johnsbury, Vt., butter.

Department of Agriculture, United States, Dairy Division, etc.—Continued.

Franklin, Mrs. W. A., Vernon, Vt., butter.
 Haggdahl, Samuel, New Sweden, Minn., butter.
 Hampton Cooperative Creamery, Easthampton, Mass., butter.
 Hermanson, Hans, Scandinavia, Wis., butter.
 Hoards' Creamery, Fort Atkinson, Wis., butter.
 Howard, J. F., Haverhill, Mass., butter.
 La Grange Creamery, Lagrange, Ga., butter.
 Lawrence, W. A., & Son, Chester, N. Y., butter.
 McLarens, A. F., & Co., Detroit, Mich., butter.
 Matzoon, Y. T., Company, New York, matzoon.
 Minnesota Dairy School, Columbus, Ohio, butter.
 Monadnock Farms, Monadnock, N. H., butter.
 Montague Creamery, Montague, Mass., butter.
 Norton, Edward, Goshen, Conn., butter.
 Ohio Dairy School, Rogersville, Ohio, butter.
 Reynolds, A. C., New York, butter.
 Rice, E. S., Triumph, Ohio, butter.
 Rice, H. W., Westford, Vt., butter.
 Root, C. P., Gilbertsville, N. Y., butter.
 Silver Lake Cooperative Creamery, Wisconsin, butter.
 Sondergaard, H. T., Litchfield, Minn., butter.
 Springbrook Creamery, Rockville, Conn., butter.
 Vernon Creamery, Rockville, Conn., butter.
 Wells River Creamery, Vermont, butter.
 Western Newark Creamery Company, Wisconsin, butter.
 Windsor Creamery Company, Windsor, Conn., butter.

Fairfield Dairy Company, The, Montclair, N. J.: Photographs; methods of supplying milk to cities.

Hall, W. A., Bellows Falls, Vt.: Collection of specimens of the by-products of dairying.

Harvey, Fred., Galt, Cal.: Milk, cream, butter, and cheese.

Helvetia Milk Condensing Company, Highland, Ill.: Highland brand cream, evaporated.

Lamont, G. Fred., St. Louis, Mo.: Eggs, crystallized, oil of eggs, egg food.

Maine Condensed Milk Company, Whitefield, N. H.: Condensed milk.

New York State commission to the Paris Exposition, Lowville, N. Y.: Butter, creamery, dairy and fancy; cheese, factory and fancy. Collective exhibit. Contributors:

Babcock, R. H., cheese.
 Baumest, A. X., & Co., cheese.
 Bent, R. H., butter.
 Briarcliff Farms, butter.
 Cook, A. & H. E., cheese.
 Dawley, F. E., cheese.
 Dunaway, F. P., cheese.
 Goodrich, D. A., cheese.
 Hall, W. W., cheese.
 Meridale Company, butter.
 Norton, Robert, & Co., cheese.
 Rockdale Creamery, butter.
 Rosemary Creamery, butter.
 Underhill, Stephen, cheese.

Pacific Coast Condensed Milk Company, Seattle, Wash.: Milk, condensed.

Pacific Creameries, San Francisco, Cal.: Milk, cream, butter, and cheese.

Russell Cream Company, The, San Francisco, Cal.: Milk, cream, butter, and cheese.

St. Charles Condensing Company, St. Charles, Ill.: Unsweetened and sterilized evaporated cream.

St. Louis Dairy Company, St. Louis, Mo.: Photographs; methods of handling milk supply in a city.

Simpson, McIntire & Co., Boston, Mass.: Butter, creamery.

Swift & Co., Chicago, Ill.: Edible animal oils and fats.

Vermont Condensed Milk Company, Richmond, Vt.: Milk, condensed.

Walker-Gordon Laboratory Company, Boston, Mass.: Milk, modified; milk products.

CLASS 41.—*Inedible agricultural products.*

Abney, Z., Prattville, Ala.: Dixon lint cotton.

Adam's Cotton Company, Charleston, S. C.: Upland middling lint cotton.

Addison, J. C., Ruddell, S. C.: Peterkin lint cotton and cotton seed.

Adger, Joseph E., Hughes Spur: Short-staple cotton for hill land.

Adkins, William, Auburn, Ala.: Truitt lint cotton.

Advance Gin and Mill Company, Vicksburg, Miss.: Allen's hybrid cottons, "de-lint," and linters from seed after ginning.

Agricultural Experiment Station of Alabama, Auburn, Ala.: King cotton seed.

Agricultural Experiment Station of Georgia, Experiment, Ga.: Ten varieties of cotton.

Agricultural Experiment Station of Mississippi, Agricultural College, Miss.: Cotton.

Agricultural College of Oregon, Corvallis, Ore.: Shropshire and cotswold wool.

Alexander, William D., Croft, N. C.: White cluster lint cotton.

Alexander, J. F., Britton, Tex.: Mammoth seed storm-proof cotton.

Allen, R. B., Midlothian, Tex.: Goose-egg cotton.

Allison, S. B., New Orleans, La.: Ramie stalks and fiber prepared by Allison machine and process.

American Cotton Oil Company, New York: Cotton-seed oils, cake, meal, linters, and soap.

American Ginning Company, Philadelphia, Pa.: Sea-island cotton, ginned by Prior roller gin.

Anderson, L. L., Roberta, Ind. T.: Storm-proof and green-seed cottons.

Appetts', Williams, Sons, Hallettsville, Tex.: Cotton.

Arnin, B. F., Hallettsville, Tex.: Meyer's lint cotton.

Arthur, W. A., & Co., Texarkana, Tex.: Cottons.

Ashford, W. R., Rockton, S. C.: King's lint cottons.

Bailey, J. S., Raleigh, N. C.: Williams and Davis lint cottons.

Baker, Sam., Woodson, Miss.: Girard lint cotton.

Baker & Chapman, Rio Vista, Tex.: German variety of lint cotton.

Bankinson, W. S., Yokena, Miss.: Allen Hybrid and China prolific cotton.

Barbee, J. Y., Ripley, Tenn.: Cotton seed.

Barper, William Gordon, Hemphill, Tex.: Cotton.

Bates, R., Jackson, S. C.: Bates poor land and little brown cotton seed.

Bates & White, Nassau, Iowa: Delaine wool.

Battle, R. B., Raleigh, N. C.: Cotton.

Battle, M. J., Whitakers, N. C.: Extra prolific improved lint cotton.

Baxter, C. W., Hopedale, Ohio: Blacktop delaine merino wool.

Bean, Tarleton H., Washington, D. C.: Alaska wool.

Beck, W. S., Coleman, Tex.: Delaine merino wool.

Bedell, E. I., Mound, Tex.: Bedell lint cotton.

Bell, J. C., Renio, S. C.: Truitt lint cotton.

Bell, W. W., Manley, Minn.: North Star wool.

Bell & Moore, Red Bluff, Cal.: Three-fourths blood merino wool.

Bendat, L., McComb City, Miss.: Upland long-staple cotton.

Benton, S. M., Beaufort, S. C.: Sea-island lint and seed cotton.

- Berry, J. L., Hampton, Ga.: Berry early big boll lint cotton; branches of cotton covered with open bolls.
- Beyer, George, Poughkeepsie, N. Y.: National delaine wool.
- Biers, Rev. J. T., Round, S. C.: Peterkin lint cotton.
- Billings Farms, Woodstock, Vt.: Southdown wool.
- Binson, William E., Charleston, S. C.: Sea-island cotton.
- Bishop, M. A., Madison, Ala.: King lint cotton.
- Blakeney, J. C., Shawnee, Okla.: Ounce boll, sea-island, storm-proof lint cottons.
- Blanchard & Folsom, Mound, Tex.: Bedell's best lint cotton.
- Bogwell, Hardy B., Garner, N. C.: Cotton.
- Booth, J. B., Paris, Tex.: Bryant lint cotton.
- Bouchelles, E. F., Boligee, Ala.: Common Alabama cotton.
- Braden, B. T., Paris, Tex.: Cotton.
- Braden, C. C., Paris, Tex.: Cock's improved lint cotton.
- Broughton, Joseph T., Garner, N. C.: Cotton.
- Breazeale Bros., Bermuda, La.: Peterkin cotton.
- Breds, J. Ernest, Natchitoches, La.: Cotton.
- Brice, A. H., Woodward, S. C.: Peterkin improved lint cotton.
- Bryant, T. W., Midlothian, Tex.: Storm-proof cotton.
- Buttrill, Thomas H., Jackson, Ga.: Cotton.
- Byrd, A. G., Omega, Okla.: Nadagorish silk cotton seed; Petit Gulf seed.
- Byrd, M. T., Roxie, Miss.: Upland lint cotton.
- Calcots, Allen C., Ruston, La.: King cotton.
- Caldwell, L. H., Lumberton, N. C.: Big boll and common cottons.
- Callison, J. W., Greenwood, S. C.: Improved King lint cotton.
- Canty, John, Fort Mitchell, Ala.: King cotton seed.
- Caperton, W. P., Adona, Ark.: Big boll lint cotton.
- Capps, T. W., Geneva, Ala.: Truitts big boll lint cotton.
- Carpenter, John W., Batesville, Ohio: National delaine merino wool.
- Carter, J. J., Copeland, S. C.: Peterkin lint cotton seed.
- Cary, F. M., Seneca, S. C.: Peterkin lint cotton.
- Cary, Robert A., White Pond, S. C.: Peterkin cluster lint cotton.
- Casey, T. F., Oglesby, Tex.: Ounce boll lint cotton.
- Cathcart, S. M., Rehoboth, Ala.: Cathcart's improved cluster lint cotton.
- Chamber of Commerce, Los Angeles, Cal.: California cotton in the boll.
- Chandler, R. C., Stokes, Miss.: Rodger lint cotton.
- Chaplin, R. W., jr., Rantowles, S. C.: Cotton.
- Chapman, Max, Marysville, Ohio: Standard delaine merino wool.
- Chilton, J. B., Comanche, Tex.: Chilton blue seed improved lint cotton.
- Chinn, R. L., Coulterville, Tex.: Miles and king cotton seed.
- Chisholm, E. N., Rowesville, S. C.: Peterkin lint cotton.
- Clapp, A. R., Chatham, Ohio: Dickinson delaine merino wool.
- Clark, John G., Washington, Pa.: Improved Saxony wool.
- Clark, Judge Walter, Raleigh, N. C.: Drake's Cluster cotton seed.
- Clarke, William, Cahto, Cal.: Merino cross wool.
- Coates Brothers, Philadelphia, Pa.: Delaine wool.
- Cohn, S., & Son, Magnolia, Miss.: High-grade upland lint cotton.
- Colin, L. L., Carbon, Tex.: Berville and common cotton.
- Collins, W. A., Bastcop, La.: Peterkin cotton seed.
- Collins, W. E., Mayersville, Miss.: China prolific, Dougherty, long staple, Peterkin lint cottons.
- Commercial Museum, Philadelphia, Pa.: Washed and unwashed wool from various parts of the United States.

- Commonwealth Cotton Manufacturing Company, Durham, N. C.: Williams variety lint cotton.
- Cone, D. S., Red Bluff, Cal.: Merino wool.
- Conn, J. G., Neal, Tex.: Improved mixture lint cotton.
- Constant, Edward W., Atherton, La.: Willis cotton seed.
- Cook, W. A.; Utica, Miss.: Cook's upland long-staple lint cotton.
- Corley, J. J., Florence, S. C.: Cotton plant in fruit; seed and lint cotton.
- Cossit, Dabis, Onondaga, N. Y.: American merino wool.
- Cribb, J. B., Manor, Ga.: Searsland cotton seed.
- Crow Brothers, Monroe, N. C.: King's Improved lint cotton.
- Culbertson, H. M., Sonora, Ohio: Dickinson's delaine merino wool.
- Currie, J. W., Rio Vista, Tex.: Storm-proof cotton.
- Curtis, W. S., Thomson, Ga.: Pruitts reimproved cotton.
- Davisson, F. M., West Manchester, Ohio: Oxforddown wool.
- Delta Cotton Company, Memphis, Tenn.: Cotton.
- Department of Agriculture, United States, Washington, D. C.: Collective exhibit of wools and goat fleeces.
- Department of Agriculture, United States, Museum Division, Washington, D. C.: Collective exhibit of flax, flax straw, Alaskan flax, and fibers.
- Department of Agriculture, United States, Museum, Vinita, Ind. T.: Fleece of Angora goat.
- Department of Agriculture, United States, Division of Statistics, Washington, D. C.: Collective exhibit of seed and lint cotton.
- Dewey, Gould & Co., Boston, Mass.: Graded Michigan wool.
- Dewstoe, Martin R., Mount Holly, N. C.: Improved King's cotton seed.
- Dill, Joseph T., Charleston, S. C.: Extra fine lint cotton.
- Dimler, William M., Fillmore, Ind.: Leicester-cross wool.
- Dockery & Donelson, Memphis, Tenn.: Lint cottons.
- Dodge, Charles Richards, Washington, D. C.: Photographs illustrating the fiber industry in the United States.
- Dorgan, L. C., Mobile, Ala.: Cotton.
- Dorgan, L. C., & Co., Mobile, Ala.: Common and Allen seed cotton.
- Draughn, Alonzo B., Ryan, Tex.: Stormproof lint cotton.
- Du Pre, A. H. & Son, McClellanville, S. C.: Sea-island and lint cotton.
- Eagleson, A. S., Washington, Pa.: Dorset horn wool.
- Easley, J. W., Pendeltonville, Tex.: Woolup seed cotton lint.
- Ellison, M. E., Williamston, S. C.: King's lint and seed cottons.
- Eubank, A. L., Armstrong, S. C.: Duncan's mammoth lint cottons.
- Evans, W. D., Cheraw, S. C.: Cotton.
- Ewing, Hon. R. T., Center, Ala.: Texas Stormproof lint cotton.
- Experiment Station of North Carolina, Raleigh, N. C.: King's No. 1 cotton seed.
- Fallin, W. H., Ruston, La.: Cotton.
- Farrell, T. W., Blackville, S. C.: Peterkin lint cotton.
- Farrill, P. W., Blackville, S. C.: Big Boll Prolific lint cotton.
- Ferguson, J. G., Vicksburg, Miss.: Ferguson's Prolific staple lint cotton.
- Ferrell, B. C., Quincy, Miss.: Common Mississippi lint cotton.
- Field & Strickland, Cartersville, Ga.: Common Georgia lint cotton.
- Finks, J. B., Waco, Tex.: Cotton.
- Fiske, Louis S., & Co., Philadelphia, Pa.: Wool, washed and unwashed, from various parts of the United States.
- Flint, Daniel, Sacramento, Cal.: Hops.
- Folts, A. J., Ripley, Tenn.: Green seed cotton seed.
- Forrest, James M., Paris, S. C.: Chester big boll lint cotton.

- Foster and Glassell, Shreveport, La.: Cotton.
- Frankinbush, J. M., New Orleans, La.: Lint cottons.
- Fripp, William P., Grahamville, S. C.: Sea-island cotton.
- Fugua, M. J., Anderson, Tex.: O'Brien big boll lint cotton.
- Gage, John P., Union, S. C.: Peterkin and Thomas hybridized cottons.
- Gallop, J. O., Woodson, Miss.: Timberlake lint cotton.
- Garland, B. W., Dekalb, Tex.: Cotton.
- Gilbert, J. E. & Co., Nashville, Tenn.: Cottons.
- Goodlett, James P., Memphis, Tenn.: Long staple, heavy bender, and upland lint cottons.
- Gordon, W. W., & Co., Savannah, Ga.: Commercial collection of East Florida and Georgia Sea Island cottons.
- Gracie, John M., New Gascony, Ark.: Black rattler, truitt, and silk osier lint cottons.
- Graham, A. T., Canton, Miss.: Pelican lint cotton.
- Graham, E. M., Ruston, La.: King cotton seed.
- Graham, W. A., Machpelah, N. C.: Graham's improved lint cotton.
- Green, B. A., Easley, S. C.: Allen's long staple, King's early cottons.
- Green, Mc., Altona, Okla.: Willow and red baltic cotton seed.
- Green, Wesley, Baxter, Ark.: Big-boll cotton seed.
- Greene, H. H., Ballettsville, Tenn.: Meyer's cotton.
- Gregory, W. B., Stovall, N. C.: Russell's lint cotton.
- Griffin, John, Greenville, Miss.: Griffin cotton.
- Guesnard, August, Lobdell, La.: Cotton lint.
- Gumbell, E., & Co., New Orleans, La.: Louisiana cottons.
- Guy, John N., Carbon, Tex.: Mir's variety lint cotton.
- Gwin, Davis & Gwin, Brunswick, Miss.: Extra staple lint cotton.
- Haile & Waltz, Chico, Cal.: Merino wool.
- Hale, Barry, Baxter, Ark.: Peterkin cotton seed.
- Hall, J. C., Ordway, S. Dak.: Shropshire wool.
- Halladay, C. L., Sebewa, Mich.: Rambouillet merino wool.
- Hallett, H. C., Morrillton, Ark.: Cook lint cotton.
- Halliday, W. P., Drewton, Ark.: Cotton.
- Hallowell, Donald & Co., Boston, Mass.: Wools, washed and unwashed, from various districts of the United States.
- Hancock, George A., Eugene, Oreg.: Fleece of Angora goat.
- Harden, W. A., Chester, S. C.: Peterkin lint cotton.
- Hardie, W. T., & Co., New Orleans, La.: Cotton.
- Hargrave, Joseph, Madrid, N. Y.: Dorset horn wool.
- Harmon, F. J., Lexington, S. C.: Peerless lint cotton.
- Harper, William G., Hemphill, Tex.: Texas cotton.
- Harrell, George R., Kelford, N. C.: Allen's long staple and hybrid cotton.
- Harris, George C., Mount Helena, Miss.: Cotton.
- Harris, John S., Oakley, Idaho: Fleece of Angora goat.
- Harris, Thomas, Thomas, Ga.: Cotton.
- Harris, W. P., Youngs, S. C.: Peterkin cotton.
- Harrison, John, Nash, Tex.: Stormproof and Peterkin lint cottons.
- Hart, J. S., Stono, S. C.: Seabrook lint cottons.
- Hartley, L. M., Salem, Iowa: Shropshire wool.
- Hawkins, B. W., Nona, Ga.: Prolific lint cotton.
- Hawkins, Henry, Shreveport, La.: Cottons and unpressed cotton lint.
- Hayes, H. M., Exlivin, Ga.: Cotton.
- Hays, X. D., Kent's Store, La.: Peterkin cotton seed.
- Hazlewood, J. D., Fayette Corner, Tenn.: Fine Pacific lint cotton.

- Heald, C. H., Healdton, Ind. T.: Ounce Boll and mixed cotton seed.
- Hecht, Liebmann & Co., Boston, Mass.: Wools of various breeds and grades.
- Hinson, W. G., Charleston, S. C.: Sea-island cotton.
- Holtz, Scott, Tiffin, Ohio: Dickinson Delaine wool
- Hooker, G., Eureka, Cal.: Merino wool.
- Horst Brothers, Horstville, Cal.: Hops.
- Huett, Lee, Baxter, Ark.: Peterkin cotton seed.
- Hughes, W. G., Hastings, Tex.: Merino wool.
- Indo-Egyptian Compress Company, New York and Boston: Cotton in bales.
- Jackson, E. B., Arnot, Miss.: Superior benders lint cotton.
- Jacob, A. R., Clinton, W. Va.: Saxony improved wool.
- Jagode, Philip & Co., Philadelphia, Pa.: Wool, Ohio washed, New Mexican unwashed fleece, New Mexican scoured.
- Jamison, John B., Maynard, S. C.: Jones and King's cottons.
- Jeter, W. W., Santuck, S. C.: Jeter Dickson cotton.
- Jeter, L. B., Santuck, S. C.: Peterkin cluster-lint cotton.
- Johnson, J. B., & Son, Canonsburg, Pa.: Wool.
- Johnson, J. M., Tallulah, N. C.: La Clede and long staple lint cotton.
- Johnston, C. W., Chapel Hill, N. C.: Boyd's prolific lint cotton.
- Jones, Hercules, Canton, Miss.: Jones's staple lint cotton.
- Jones, Horace, R., Arcadia, La.: Cotton lint.
- Jones, J. M., Summerville, Tenn.: Long staple lint cotton.
- Jones, J. Wiley, Banks, N. C.: Cotton.
- Joyner, N. C., Kingville, S. C.: Peterkin lint cotton.
- Justice, Bateman & Co., Philadelphia, Pa.: Merino, Shropshire, and crosses, washed and unwashed wool.
- Keener, M. M., Plaingrove, Pa.: Wool.
- Kelly, Thomas B., Kelly, Ala.: Hawkins improved cotton seed.
- King, J. B., St. Paul, S. C.: Peterkin lint cotton.
- King, J. M., Hattievile, Ark.: Cotton.
- Knoop, Frerichs & Co., Charleston, S. C.: Middling-fair lint cotton.
- Kohlmann, Louis, New Orleans, La.: Moss and vegetable hair for carriage upholstery.
- Koshland, M. S., San Francisco, Cal.: Merino wool.
- Kosminsky & McFaddin, Texarkana, Ark.: Cottons.
- Lea, F. H., New Orleans, La.: Commercially graded lint cottons.
- Lee, Robert E., Laurinburg, N. C.: Cotton.
- Lee, Samuel, & Co., Philadelphia, Pa.: Wool.
- Lenz, Henry, Leighton, Ala.: Green-seed lint cotton.
- Leonard, Daniel, Leonard, Iowa: Shropshire wool.
- Leslie, P. C., Norman, Okla.: Storm king cotton seed.
- Levi, M. P., Weaver, Tenn.: Levi's double boll lint cotton.
- Lipscomb, A. S., Pacolet, S. C.: King lint cotton.
- Lipscomb, B. S., Pacolet, S. C.: King lint cotton.
- Lipscomb, J. M., Gowcher, S. C.: Big boll lint cotton.
- Logan, J. A., Gordon, Ala.: Storm-proof lint cotton.
- Lord, Mrs. Julia P., Salem, Oreg.: Flax straw and fiber produced by the Oregon Women's Flax Growing Association.
- Luce & Manning, Boston, Mass.: Graded wools.
- Ludwig, B. T. J., Mount Pleasant, N. C.: Green-seed mixed cotton.
- Lynch, B. McN., Laurinburg, N. C.: Cotton.
- Lynn, George W., Durham, N. C.: Williams's lint cotton.
- Lyons, J., Eureka, Cal.: California wools.
- Macarty, W. W., Choctaw, Okla.: Storm-proof cotton seed.
- McBride, John A., Scotland, N. C.: North Carolina cotton,

- McCord, J. W., Sabouglia, Miss.: Russell's big boll and Colodyce's long staple cotton.
- McDonald, R., Trinity, Tex.: Bohemian and Peterkin lint cottons.
- McIntyre, Patsey, Glass, Miss.: Ferguson lint cotton.
- McKay, R. M., Cheraw, S. C.: Johnson mixed-seed cotton.
- McKinnon, A. J., Maxton, N. C.: King's early, Peterkin's improved, and other cottons.
- McKinnon, L. D., Laurinburg, N. C.: Simpson lint cotton.
- McLendon, J. R., Naftel, Ala.: Upland and big boll cotton seeds.
- McNary, James C., Washington, Pa.: Delaine merino wool.
- McNary, J. S., Canonsburg, Pa.: Delaine merino wool.
- Mahan, W. H., Randolph, Ala.: Cotton,
- Makeig, S. I., Ross, Tex.: Big boll cotton seed.
- Maloney, W. A., Kings Mountain, N. C.: Cotton.
- Martin, F. M., Pecangrove, Tex.: Bedell lint cotton.
- Maske, J. B., Polkton, N. C.: Dixie cotton seed.
- Massey, B. F., Fort Mill, S. C.: Peterkin lint cotton.
- Mauger & Avery, Boston, Mass.: Wool from the Eastern United States.
- Mauney, W. A., Long Shoals Cotton Mills, Long Shoals, N. C.: King's Improved lint cottons.
- Maxey, S. C., Choctaw, Okla.: Five lock cotton seed.
- May, W. H., Kings Landing, Ala.: Southern prolific lint cotton.
- Mial, Millard, Raleigh, N. C.: King lint cotton.
- Miller, C. W., Social Circle, Ga.: Big boll cotton.
- Miller, J. M., Upland, Ind.: Merino wool.
- Milton, R. K., Midlothian, Tex.: Goose egg five lock lint cotton.
- Minge, C. H., & Co., New Orleans, La.: Louisiana cotton lint.
- Mitchell, E. B., Ballettsville, Tex.: Meyers cotton.
- Mitchell, Joseph D., Newtown Landing: China prolific lint cotton.
- Mitchell, L. M., Heloise, Tenn.: Green-seed cotton seed.
- Mobile Cotton Exchange, Mobile, Ala.: Alabama cotton; upland and river lint cotton.
- Montgomery, George W., Tallulah, La.: Long staple cotton.
- Moore, Aaron, Canton, Miss.: Hawkins lint cotton.
- Moore, Dr. Matt., Warsaw, N. C.: Peerless lint cotton.
- Moore, T. B., Greensboro, Ga.: Simpson's cotton.
- Moore, W. E., Paris, Tex.: Bryant cotton.
- Morris, Thomas, Thomas, Ga.: Cotton.
- Moseley, Albert R., Salters Depot, S. C.: Peterkin lint cotton.
- Myers, E. L., Brock, Ind. T.: Ounce boll cotton seed.
- Neeley, A. L., Warren, S. C.: Truitt's improved lint cotton.
- Newcomber, J. L., Lamar, La.: Louisiana cotton lint.
- Nix, F. M., Bico, Tex.: Storm-proof lint cotton.
- Noland, B. R., Smithland, La.: Heavy Bender's lint cotton.
- Norfleet, F. S., Lecompte, La.: Allen long staple cotton.
- O'Brien, James F., Burnsville, Ala.: Eureka cotton seed.
- Ogilvie, Theodore, Minden, La.: Cotton.
- Oklahoma Cotton Compress Company, Oklahoma, Okla.: Cotton.
- Oliphint, T. W., Buntsville, Tex.: Jackson lintless cotton seed.
- Oliver, John L., Lancaster, Tex.: Green-seed, storm-proof, and Peterkin cottons.
- Orenbeck, Frederick, Baxter, Ark.: Peterkin cotton seed.
- Orr, J. W., Rio Vista, Tex.: Storm-proof lint cotton.
- Otto, John B., Tecumseh, Okla., Storm-proof lint cotton.
- Parker, John M., New Orleans, La.: Twelve varieties of lint cottons.
- Parker, John R., McCall, S. C.: Brown Texas Wood lint cotton.

- Patterson, R. A., Airlie, N. C.: Little white cotton seed.
 Payne, William R., & Co., New York City: Fleeces of Angora goat.
 Pearl, James, Port Gibson, Miss.: Alden's improved lint cotton.
 Peele, John B., Bloomington, Ohio: Dorset horn wool.
 Peteet, C., Madison, Ga.: Pilson's big boll and storm-proof cotton.
 Phillips, Charles C., Greenwood, La.: Dickin's short staple cotton.
 Pickett, H. A., Newberry, Fla.: Sea-island lint cotton.
 Pitts, B. B., & Son, Marshall, Tex.: Cotton.
 Plumb, Charles S., Fayette, Ind.: Cheviot wool.
 Pollock, W. A., Beird, Miss.: Griffin & Pollock's Fancy lint cotton.
 Porcher, Philip G., Mount Pleasant, S. C.: Cotton.
 Pordur, Philip G., Mount Pleasant, S. C.: Dullyard lint cotton.
 Prescott, E., Franklin, S. C.: Hawkins's lint cotton.
 Price, W. J., Jones, Okla.: Storm-proof cotton seed.
 Rhodes, A. S., Crawford, Ga.: Jackson's limbless cotton.
 Rice, C. S. O., Orysa, Tenn.: Green-seed cotton seed.
 Richards, John T., Pisgah, Ala.: Jackson's lint cotton.
 Richardson, J. C., Robertsville, S. C.: Tyler's limited cluster lint and seed cotton.
 Richardson, Washington, Baxter, Ark.: Peterkin cotton seed.
 Ridduck, N. E., Raleigh, N. C.: North Carolina cotton.
 Reigle, Philip A., Arlington, Ohio: Rambouillet wool.
 Right, L. W., Florence, S. C.: Peterkin's lint cotton.
 Rigsbee, Atlas M., Durham, N. C.: Williams's limbless cotton.
 Robe, J. W., Greencastle, Ind.: Leicester cross wool.
 Roberts, A. V., Mansfield, La.: Peterkin's long limb cotton seed.
 Roberts, J. W., Chandler Springs, Ala.: Long lint prolific cotton.
 Robertson, T. J., & Son, Hopedale, Ohio: Delaine merino wool.
 Robinson, A., Benhams, La.: Peterkin's Long Limb cotton seed.
 Robinson, C. A., Rockton, S. C.: Jackson Limbless lint cotton.
 Roby, C. C., Rochefort, Mo.: Delaine wool.
 Roly Company, Smeeds, Miss.: Bender's lint cotton.
 Rosenbergs Brothers, Ballettsville, Tex.: Myers' lint cotton.
 Russell, D. B., Morrilton, Ark.: Twenty-one varieties of lint cottons.
 Sanders, Capt. D. H., Greensboro, Ga.: Jones' improved lint cotton.
 Sanders, L., Alba, Tex.: Storm-proof lint cotton.
 Sanders, Orr & Co., Charlotte, N. C.: Cotton.
 Santa Cruz Island Company, San Francisco, Cal.: Three-quarters blood merino wool.
 Scott, Charles, Rosedale, Miss.: Cook's lint cottons.
 Scott, J. W., Wisacky, S. C.: Peterkin lint cotton.
 Scott, Lee R., Burgettstown, Pa.: Delaine merino wool.
 Scott, Richard, Milwaukee, Oreg.: Cotswold wool.
 Sebastian, W. W., Spring Ridge, La.: Cotton.
 Shaw, C. C., & Son, Newark, Ohio: Southdown wool.
 Sheldon, J. D., Fairplay, S. C.: Colis Peterkin and Sheldon's improved large boll cotton seed.
 Shine, John W., Pendletonville, Tex.: Dell's five lock lint cotton.
 Shipman, W. A., Auburn, Ala.: Texas ounce boll cotton lint.
 Sibley, R. C., Robeline, La.: Kimberley cotton.
 Simmes, S. S., Storeville, Ga.: Bush & Bayes prolific seed cotton.
 Simmons, William E., Lawrenceville, Ga.: Cotton.
 Singleton, W. L., Toddville, S. C.: Hawkins's prolific lint cotton.
 Slater, W. A., Durham, N. C.: Little king lint cotton.
 Slaton, J. P. & J. C., Tuskegee, Ala.: Christopher lint cotton.

- Sloan, J. B., & Co., Wilmington, N. C.: Cotton.
- Smith, Alfred, Oklahoma, Okla.: Storm-proof and Cheatham cotton seed.
- Smith, Charles D., Wathen, S. C.: King's Improved lint cotton.
- Smith, George T., Covington, Ga.: Deiring's small-seed cotton seed.
- Smith, John E., Farr, Tex.: Storm-proof lint cotton.
- Smith & Fullerton, Tecumseh, Okla.: Cotton.
- Snow, Clark, Oxford, Ala.: Russell lint cotton.
- Sommerkamp, R. P., Kamp, Ala.: Nankin lint cotton and seed.
- Southern Railway Company, The, Washington, D. C.: Models of plantation cotton compress, modern compress, wagon and car models.
- Sparkman, John H., Era, Tex.: Five Lock Storm-proof lint cotton.
- Spreckels, J. C., Warrenton, Tex.: Shoepack lint cotton.
- Spencer, George W., Chesterfield, S. C.: Jones's prolific big boll lint cotton.
- Spencer, T. C., Spencer, S. C.: King's Early lint cotton.
- Spicer, W. E., Bushnell, Ill.: Southdown wool.
- Sprunt, Alexander, & Son, Wilmington, N. C.: North Carolina upland lint cotton.
- Stallings, J. R., Morrillton, Ark.: Cotton.
- Stein, William, New Berlin, Tex.: Big boll and pelican lint cottons.
- Stevens, C. C., Crawford, Ga.: Gold leaf cotton.
- Stogner, John, Comanche, Tex.: Meyer's seed cotton.
- Stone, James A., & Son, Bradfordton, Ill.: Shropshire down wool.
- Stone, Nota B., Independence, Kans.: Big Dixie and excelsior cotton.
- Stone, R. J., Stonington, Ill.: Oxford down wool.
- Stuyvesant, Rutherford, Allamuchy, N. J.: Dorset horn wool.
- Sullivan, L. E., Pilot Point, Tex.: Cotton.
- Sullivan, Joseph W., Warthen, S. C.: Hawkins's lint cotton.
- Tarkington, S. G., Ballettsville, Tex.: Myers lint cotton.
- Taylor, B. L. L., Blevins, Tex.: Barwell & Woolup lint cotton.
- Thomas, William C., Gold Hill, Ala.: Cotton.
- Thompson, S. M., Prestonia, Mo.: White-seed lint cotton.
- Thompson, Z. T., Strong's Station, Miss.: Thompson's improved lint cotton.
- Tillman, E. D., Van Wyck, S. C.: Tillman's pet lint cotton.
- Todd, Albert M., Kalamazoo, Mich.: Plants, aromatic and medicinal; volatile oils.
- Tompkins, D. A., Charlotte, N. C.: Cotton.
- Tompkins, Josiah, & Son, Fostoria, Mich.: Lincoln wool.
- Traylor, T. W., White Oak, S. C.: Cotton.
- Tripp, Louis F., Grahamville, S. C.: Cotton.
- Tripp, William P., Grahamville, S. C.: Sea island cotton.
- Tullis, John W., & Co., Eufaula, Ala.: Cotton.
- Turner, William S., Banks, N. C.: Cotton.
- Tuttle, L. C., Eureka, Cal.: California wool.
- Van Valkenburgh, J. D., Greene, N. Y.: Rambouillet wool.
- Wadley, William O., Rogers, Ga.: Peterkin lint cotton.
- Waggoner, S. S., Ellenwood, Ga.: African limbless lint cotton.
- Walker, W. S., Jefferson, Tex.: Cotton.
- Walls, Sam, Ocee, Tex.: Storm-proof lint cotton.
- Warwick, J. M., Flourney, La.: Peterkin cotton.
- Watkins, J. F., Chappells, S. C.: Upland limbless cluster lint cotton.
- Watkins, Dr. W. W., Aberdeen, Miss.: Cotton.
- Watts, C. J., Ruston, La.: Peterkin and King cotton.
- Weaner, J. W., Heath Spring, S. C.: Russell's improved big roll cotton.
- Webb, W. T., Alpine, Ala.: King's Improved lint cotton.
- Wessinger, P. J., Boyleston, S. C.: Texas oak lint cotton.

Whitaker, F. A., Raleigh, N. C.: Cotton.
 Wilcox, S., Red Bluff, Cal.: Merino wool.
 Williams, J. M., Woodson, Miss.: King's improved lint cotton.
 Williams, W. B., Strongs, Miss.: Williams's best lint cotton.
 Williamson, J. A., Columbus, Ark.: Ocean and moon lint cotton.
 Williamson, J. J., Kickapoo, Okla.: Storm-proof lint cotton.
 Willingham, B. H., Thomson, Ga.: African limbless lint cotton.
 Wilson, C. C., Boyce, Tex.: Storm-proof cotton.
 Wilson, D. J., Lois, Tex.: Dan Wilson storm-proof five lock lint cotton.
 Wing, Joseph E., Mechanicsburg, Ohio: Dorset horn wool.
 Wingo, B. A., Inman, S. C.: Truitt lint cotton.
 Withers, J. B., Davidson, N. C.: King's improved lint cotton.
 Womack, T. A., Manchac, La.: Long staple lint cotton.
 Worthington, C. T., Leota, Miss.: Bender's weed cotton.
 Wright, Harrison, Omega, Okla.: Green Seed cotton seed.
 Wright, Simeon, Ruston, La.: Big boll lint cotton.
 Wright, W. H., Greensboro, Ga.: Peterkin cotton.
 Ziegler, Jacob, Clinton, Ill.: Shropshire down wool.

CLASS 42.—*Useful insects and their products—Injurious insects and plant diseases.*

Benton, Frank, Washington, D. C.: Queen-bee cages, specimens of bees, bulletins on beekeeping.
 Dadant, Chas., & Son, Hamilton, Ill.: Comb foundation.
 Department of Agriculture United States, Division of Entomology, Washington, D. C.: Collective entomological exhibit illustrating devices for the destruction of insects.
 Falconer, W. T., Manufacturing Company, Jamestown, N. Y.: Beehives and sectional honey boxes.
 Massachusetts State Board of Agriculture, Malden, Mass.: Models and photographs illustrating warfare against gypsy moths.
 Root, A. I., Company, Medina, Ohio: Beehives, beekeeping appliances, comb foundation, A B C book on bee culture, photographs of factory and apiary.

GROUP VIII.—HORTICULTURE AND ARBORICULTURE.

CLASS 43.—*Appliances and methods of horticulture and arboriculture.*

Albaugh-Georgia Orchard Company, Fort Valley, Ga.: Photographs of orchards and fruit shipping.
 Allen, S. L., & Co., Philadelphia, Pa.: Tools, agricultural and horticultural. Revolving globe.
 Audubon Park Association, New Orleans, La.: Photographs of landscape features, etc.
 Baron de Hirsch Agricultural Industrial School, Woodbine, N. J.: Photographs of orchards, gardens, etc.
 Bellefontaine Cemetery, St. Louis, Mo.: Photographs of landscape features.
 Burpee, W. Atlee, & Co., Philadelphia, Pa.: Photographs of growing crops.
 California Commission to Paris Exposition: Photographs of orchard and vineyard scenes in California.
 California Nursery Company, Niles, Cal.: Photographs of nursery and orchard scenes.
 Cemetery of Spring Grove, Cincinnati, Ohio: Photographs of landscape features.
 Coldwell Lawn Mower Company, Newburg, N. Y.: Lawn mowers.
 Conner, Washington E., New York City: Photographs of private grounds and vineyard.
 Cooper, Ellwood, Santa Barbara, Cal.: Photographs of olive orchards.

Division of Pomology, United States Department of Agriculture: Collection of photographs of horticultural organizations in the United States, containing the following:

National and district organizations:

American Association of Nurserymen. Photograph of association, Chicago, Ill., 1899.

American Pomological Society. Photograph of society, Philadelphia, Pa., 1899.

Northwest Fruit Growers' Association. Photograph of society, Tacoma, Wash., 1900.

Peninsula Horticultural Society. Photograph of society, Milford, Del., 1897.

State and local organizations—

Illinois State Horticultural Society: Officers and executive committee, 1899.

Kansas State Horticultural Society: Executive board, 1899.

Maryland State Horticultural Society: Officers, 1899.

Massachusetts Horticultural Society: Photographs of horticultural hall and library.

New Jersey State Horticultural Society: Photograph of society, 1899.

Ohio State Horticultural Society: Officers of executive board, 1899.

Rhode Island Horticultural Society: Photograph of society, 1896.

Rumford Historical Association: Photograph of monument to original apple tree, erected by society in 1895.

South Dakota State Horticultural Society: Officers, 1900.

Dintlemann, L. F., Belleville, Ill.: Photographs of nursery and orchard scenes.

Dreer, Henry A., Philadelphia, Pa.: Photographs of aquatics.

Florida East Coast Hotel Company, St. Augustine, Fla.: Photographs of hotel grounds.

Graceland Cemetery, Chicago: Photographs of landscape features.

Griffing, Timothy M., Riverhead, N. Y.: Photographs of landscape features.

Hunnewell, H. H., 130 Beacon street, Boston, Mass.: Photographs of landscape features.

Johnson, F. C., Kishwaukee, Ill.: Photographs of farm cider and vinegar mill.

Lysle, Addison, Allegheny City, Pa.: Photographs of landscape features.

Maryland Agricultural Experiment Station, College Park, Md.: Photographs of horticultural scenes.

Michigan Seed Company, South Haven, Mich.: Photographs of fields of growing crops.

Milwaukee Park Commission, Milwaukee, Wis.: Photographs taken in Milwaukee parks.

National Cash Register Company, Dayton, Ohio: Photographs of horticultural features of grounds; homes of operatives.

Newby, Thomas T., Carthage, Ind.: Photographs, garden and orchard scenes.

Packard, A. S., Covert, Mich.: Photographs of orchard scenes.

Pennsylvania Railroad Company, Philadelphia, Pa.: Photographs of station grounds.

Postlethwaite, Harry, San Jose, Cal.: Photographs of nursery and orchard scenes.

St. Paul Board of Park Commissioners, St. Paul, Minn.: Photographs taken in parks.

Stevens, Mrs. Kinton, Montecito, Cal.: Photographs of tropical and sub-tropical plants.

Studer, Nicholas, Washington, D. C.: Photographs of ferns and decorative plants.

University of Idaho, Moscow, Idaho: Photographs of garden, nursery, and orchard scenes.

Vaughan, J. C., Chicago, Ill.: Photographs of growing crops and propagating houses.

Woodmere Cemetery, Detroit, Mich.: Photographs of landscape features.

CLASS 44.—(No exhibitors.)

CLASS 45.—*Fruit trees and fruits.*

- Addleman, Dill, Richmond, Ind.: Apples, 1899–1900.
 Aldrich, H. A., Neoga, Ind.: Apples, 1899–1900.
 Alsop, Mr., Argentine, Kans.: Apples, 1900.
 Alters, John, Belleplaine, Kans.: Apples, 1899.
 Ansley, M., Billsboro, N. Y.: Apples and pears, 1899–1900.
 Arlington Heights Fruit Company, Riverside, Cal.: Citrus fruits, 1899–1900.
 Ashlock, William, Turner, Kans.: Apples, 1900.
 Atherton, W. P., Hallowell, Me.: Apples, 1899.
 Axtell, F. H., Oakland, Me.: Apples, 1899.
 Babcock, E. F., Waitsburg, Wash.: Apples, 1899–1900.
 Baier, Phil M., Portersville, Cal.: Oranges, 1899–1900.
 Bailey, Frank, Wilson, Mo.: Apples, 1899.
 Bailey, Jacob, Green Mountain, N. C.: Apples, 1899.
 Bailey, J. W., Mountain Grove, Mo.: Apples, 1899.
 Baine, J. F., Lincoln, Ark.: Apples, 1900.
 Baker, G., Junius, N. Y.: Apples, 1899.
 Baldwin, M. A., Jacksonville, Ill.: Apples, 1899.
 Banner, Newton, Sugar Grove, N. C.: Apples, 1899.
 Barry, J., Redbluff, Cal.: Almonds, 1899.
 Bassett, W. A., Farmer, N. Y.: Apples, 1899.
 Bell, David K., West Brighton, N. Y.: Pears, 1900.
 Belle Louise Ranch, Manzanita, Cal.: Almonds, 1899.
 Benning, John, Lyons, N. Y.: Apples, 1900.
 Beer, S. J., Vandalia, Ill.: Apples, 1899.
 Berry Brothers, Turner, Kans.: Apples, 1900.
 Berry, M. F., Hallsville, Mo.: Apples, 1899.
 Black, William H., Floradale, Pa.: Apples, 1899.
 Barley, U. S., Redbluff, Cal.: Almonds, 1899.
 Blair, George A., Mulvane, Kans.: Apples, 1899.
 Blakely, L. M., Lyons, N. Y.: Apples, 1900.
 Blythe, Robert, Orrick, Mo.: Apples, 1900.
 Boggs, George A., Livingston, N. C.: Apples, 1899.
 Boss, Theodore, White Church, Mo.: Apples, 1899.
 Bradly, Benjamin, Lyons, N. Y.: Apples and pears, 1900.
 Bradley & Son, George H., Lakeroad, N. Y.: Apples, 1900.
 Bradley, J. Elmer, Lyons, N. Y.: Apples and pears, 1899–1900.
 Bradley, W. L., Leroy, N. Y.: Apples, 1899.
 Bream, Samuel, Floradale, Pa.: Apples, 1899.
 Bremer, Henry, Lyons, N. Y.: Apples, 1900.
 Bright, W. H., Richmond, Mo.: Apples, 1899.
 Brooks, W., Rhea, Ark.: Apples, 1900.
 Brown, Albert, Alquina, Ind.: Apples, 1899.
 Brown, A. N., Wyoming, Del.: Apples, 1900.
 Brown's Sons, Charles, Arroyo, W. Va.: Apples, 1899.
 Brown, M. F., Salem, Mo.: Apples, 1899.
 Brown, R. H., Arroyo, W. Va.: Apples, 1899.
 Bruner, T. K., Raleigh, N. C.: Apples, 1899.
 Bryant, A., & Son, Princeton, Ill.: Apples, 1899–1900.
 Burgdorf, S. E., Junius, N. Y.: Apples, 1899.
 Burk, Frank, Mesilla Park, N. Mex.: Apples, 1899.

- Burnett, Charles, Lyons, N. Y.: Apples, 1899.
- Burton, Geo. A., Orleans, Ind.: Apples and pears, 1899-1900.
- Cadwell, A., Valley City, Ill.: Apples, 1899.
- California Paris Exposition Commission, San Francisco, Cal.: Fruits and vegetables in preserving solution, citrus fruits and nuts, 1899-1900.
- Calvert, John R., Mayview, Mo.: Apples, 1900.
- Catron, J. T., Martinsburg, W. Va.: Apples, 1899.
- Chamberlain, D. S., Lyons, N. Y.: Apples, 1900.
- Chandler, John, Argentine, Kans.: Apples, 1900.
- Chase, Howard A., Mount Pocono, Pa.: Apples, 1900.
- Chipman, N. P., Redbluff, Cal.: Almonds, 1899.
- Christine, Mr., Argentine, Kans.: Apples, 1900.
- Clark, Merritt M., Bedford, N. Y.: Apples, 1899.
- Coffey, George W., Kelsey, N. C.: Apples, 1899.
- Coffey, Thomas A., Kelsey, N. C.: Apples, 1899.
- Colby, L., Argentine, Kans.: Apples, 1900.
- Collamer & Son, J. B., Hilton, N. Y.: Apples, 1900.
- Clohan, Alex., Martinsburg, W. Va.: Apples, 1899.
- Cone, D. S., Redbluff, Cal.: Almonds, 1899.
- Cone, M. H., Blowing Rock, N. C.: Apples, 1899.
- Connecticut State Pomological Society, J. H. Merriman, president, New Britain, Conn.: Apples, 1899.
- Cook & Son, H., Pavilion, N. Y.: Apples, 1899.
- Couglin, John, Argentine, Kans.: Apples, 1900.
- Cox, E. G., Bradrick, Ohio: Apples, 1900.
- Coyner, George A., Waynesboro, Va.: Apples, 1899.
- Crain, W. R., Villa Ridge, Ill.: Apples, 1899.
- Crozet Fruit Growers' Association, Crozet, Va.: Apples, 1899.
- Delmas, A. G., Scranton, Miss.: Pecans, 1899.
- Derby, S. H., Woodside, Del.: Apples and pears, 1900.
- Devore, P. L., Neoga, Ill.: Apples, 1900.
- Dickie, James, Massies Mill, Va.: Apples, 1899.
- Dintelmann, L. F., Belleville, Ill.: Apples, 1899.
- Division of Pomology, United States Department of Agriculture, Washington, D. C.: Grand collection of fresh fruits representing 18 States, crop of 1899, and 15 States, crop of 1900. Also 800 facsimile fruit models.
- Dorman, Walter, Billsboro, N. Y.: Apples, 1899.
- Dula, J. A., Lenoir, N. C.: Apples, 1899.
- Duncan, Mrs. M., Red Bluff, Cal.: Almonds, 1899.
- Dunlap, Henry M., Savoy, Ill.: Apples and pears, 1899 and 1900.
- Dutton, A. H., Youngstown, N. Y.: Apples, 1899.
- Ebeck, Joe, Argentine, Kans.: Apples, 1900.
- Ebersoll, George, Centerville, Ind.: Apples, 1899.
- Edwards, D. R., Versailles, Mo.: Apples, 1899-1900.
- Eliason, Alice, Centerville, Ind.: Apples, 1899.
- Elliott, Jessie P., Alquina, Ind.: Apples, 1899.
- Ellwanger & Barry, Rochester, N. Y.: Pears, 1900.
- Ennis, Robert T., Alloway, N. Y.: Apples, 1900.
- Facer, William D., Lyons, N. Y.: Apples, 1899.
- Falkner, N. K., Mesilla Park, N. Mex.: Apples, 1899.
- Farmers' Produce Association of Delaware, A. N. Brown, president, Wyoming, Del.: Apples, 1900.
- Farnsworth, W. W., Waterville, Ohio: Apples, 1900.

- Flack, William M., Cane River, N. C.; Apples, 1899.
 Flournoy, W. T., Marionville, Mo.: Apples, 1899.
 Fosselman, C. S., Weiser, Idaho: Apples, peaches, and pears, 1900.
 Foster Brothers, Halls Corners, N. Y.: Apples, 1899.
 Francis, C. H., Altamont, Ill.: Apples, 1899.
 Frost, George, Portersville, Cal.: Oranges, 1899-1900.
 Fry, Mason, Odessa, Mo.: Apples, 1900.
 Fuller, Henry E., Riverside, Cal.: Oranges, 1899-1900.
 Gallegar, James, Argentine, Kans.; Apples, 1900.
 Galloway, T. C., Weiser, Idaho: Apples, 1900.
 Gano, W. G., Parkville, Mo.: Apples, 1899-1900.
 Gansz, Fred., Lyons, N. Y.: Apples, 1900.
 Garber, William, Argentine, Kans.: Apples, 1900.
 Gardner, W. A., West Plains, Mo.: Apples, 1899.
 Garretson, J. V., Floradale, Pa.: Apples, 1899.
 Gleason, P., Leroy, N. Y.: Apples, 1899.
 Goetzman, Albert, Lyons, N. Y.: Apples, 1900.
 Goodman, Mrs. J. K., Lyons, N. Y.: Apples and peas, 1900.
 Goodman, L. A., Kansas City, Mo.: Apples, 1899-1900.
 Griest, Amos W., Floradale, Pa.: Apples, 1899.
 Gunning, L. D., Brashear, Mo.: Apples, 1899.
 Haden Brothers, Crozet, Va.: Apples, 1899.
 Hanlon, J., Leroy, N. Y.: Apples, 1899.
 Hanna, J. M., West Plains, Mo.: Apples, 1899.
 Harpster, Henry, St. Peter, Ill.: Apples, 1899.
 Harrington, Frank O., York Center, Iowa: Apples, 1900.
 Harris, W. R., Tecumseh, Nebr.: Apples, 1899.
 Hartley, C. P., Caldwell, Idaho: Apples, 1900.
 Hartwell, B. W., Leroy, N. Y.: Apples, 1899.
 Hatcher, M. L., Reba, Va.: Apples, 1899.
 Hatley, J. S., Hudson, N. C.: Apples, 1899.
 Hensey, Wilson, Bald Creek, N. C.: Apples, 1899-1900.
 Hewitt, E. W., Arroyo, W. Va.: Apples, 1899.
 Hiester, Gabriel, Harrisburg, Pa.: Apples, 1899.
 Hiett, W. S., Winchester, Va.: Apples, 1900.
 Hillhouse, George S., Pierce City, Mo.: Apples, 1899.
 Hoffman, Daniel, Arendtsville, Pa.: Apples, 1899.
 Holsinger, Frank, Rosedale, Kans.: Apples, 1900.
 Hotchkiss, C. M., Cheshire, Conn.; Apples, 1899.
 Houk, F. M., Brashear, Mo.: Apples, 1899.
 Huff, Perry, Versailles, Mo.: Apples, 1900.
 Husband, Joseph, Leanderville, Ill.: Apples, 1899.
 Huston, H. F., Lockport, N. Y.: Apples, 1900.
 Idaho State Horticultural Society, C. P. Hartley, president, Caldwell, Idaho: Apples, pears, and plums, 1900.
 Illinois State Horticultural Society, Henry M. Dunlap, president, Savoy, Ill.: Apples and pears, 1899-1900.
 Imkee, H. W., Princeton, Ill.: Apples, 1900.
 Indiana Horticultural Society, C. M. Hobbs, president, Bridgeport, Ind.: Apples, 1899.
 Iowa State Horticultural Society, Charles F. Gardner, president, Osage, Iowa: Apples, 1900.
 Jacobus, Philo, Niles, Cal.: Almonds, 1899.

- James, G. G., Exeter, Mo.: Apples, 1899.
- Jelinek, Frank, Crete, Nebr.: Apples, 1899.
- Johnson, J. B., Manassas, Va.: Apples, 1899.
- Johnston, J. B., New Wilmington, Pa.: Apples, 1899.
- Jones & Primel, Cuba, Mo.: Apples, 1899.
- Kansas State Horticultural Society, Fred Wellhouse, president, Topeka, Kans.: Apples and pears, 1899-1900.
- Keith, W. C., Mayview, Mo.: Apples, 1900.
- Keith, William P., Mayview, Mo.: Apples, 1900.
- Keller, C., Wyoming, Del.: Apples, 1900.
- Kempton, Joseph, Centerville, Ind.: Apples, 1899.
- Key, A., Argentine, Kans.: Apples, 1900.
- King, Columbus, Centerville, Ind.: Apples, 1899.
- Kimery, J. T., Neoga, Ill.: Apples, 1900.
- Kitterman, Enos, Centerville, Ind.: Apples, 1899.
- Kraft, Herbert, Company, Red Bluff, Cal.; Almonds, 1899.
- Kubicek, M., Crete, Nebr.: Apples, 1899.
- Labar, Wesley, Lockport, N. Y.: Apples, 1900.
- La Rash, S. D., Pekin, Ill.: Apples, 1899.
- Lawver, Rufus, Biglerville, Pa.: Apples, 1899.
- Leonard, C. N., Penfield, N. Y.: Apples, 1899-1900.
- Letterman, D. A., Green Mountain, N. C.: Apples, 1899.
- Linton, W. D., Patoka, Ill.: Apples, 1899.
- Livingston, A. H., Walla Walla, Wash.: Apples, 1899.
- Lucas, J. L., Salem, Mo.: Apples, 1899.
- Lupton, S. L., Winchester, Va.: Apples and pears, 1900.
- McCullough, U. S., Red Bluff, Cal.: Almonds, 1899.
- McInturff, C. R., Paint Gap, N. C.: Apples, 1899.
- McKeown, S. H., Gerrardstown, W. Va.: Apples, 1899.
- McPeeters, C. L., Bald Creek, N. C.: Apples, 1899-1900.
- Mage, Mrs. J., Salem, Mo.: Apples, 1899.
- Mahan Produce Co., Arroyo, W. Va.: Apples, 1899.
- Maine State Pomological Society, W. M. Munson, president, Orono, Me.: Apples, 1899.
- Malone, T. E., Wilson, Mo.: Apples, 1899.
- Manchester, Elbert, Bristol, Conn.: Apples, 1899.
- Mason, Walter, Belleplaine, Kans.: Apples, 1899.
- Marshall Brothers, Arlington, Nebr.: Apples, 1899.
- Maude, Charles A., Riverside, Cal.: Oranges, 1899-1900.
- May, J. E., Wilson, Mo.: Apples, 1899.
- Merriman, J. H., New Britain, Conn.: Apples, 1899.
- Merritt, E. T., Weiser, Idaho: Peaches and pears, 1900.
- Michigan State Agricultural College Experiment Station: Apples, crab apples, and pears, 1900.
- Miller, G. P., Martinsburg, W. Va.: Apples, 1899.
- Miller, J. J., Washington, Va.: Apples, 1899.
- Miller, W., Rhea, Ark.: Apples, 1900.
- Miller, W. S., Gerrardstown, W. Va.: Apples, 1899.
- Milman, George A., Las Cruces, N. Mex.: Apples, 1899.
- Missouri State Horticultural Society, N. F. Murray, president, Oregon, Mo.: Apples, 1899-1900.
- Mitchem, William, Argentine, Kans.: Apples, 1900.
- Montgomery, A., Whittier, Cal.: Almonds, 1899.

- Moore, Charles, Southington, Conn.: Apples, 1899.
 Moulton, Joseph, Springvale, Me.: Apples, 1899.
 Mount, C. F., Mountainview, Mo.: Apples, 1899.
 Murray, N. F., & Sons, Oregon, Mo.: Apples, 1900.
 Murrell, George E., Fontella, Va.: Apples, 1899-1900.
 Myers, Calvin, Mulvane, Kans.: Apples, 1899.
 Nebraska State Horticultural Society, George H. Marshall, president, Arlington, Nebr.: Apples, 1899.
 Neff, Ira, Marionville, Mo.: Apples, 1900.
 Nelson, A., Lebanon, Mo.: Apples, 1899.
 Nelson, J. A., Marshfield, Mo.: Apples, 1899.
 Newby, Thomas T., Carthage, Ind.: Apples, 1899.
 Newland, William, Alquina, Ind.: Apples, 1899.
 New Mexico Agricultural College, Mesilla Park, N. Mex.: Apples, 1899.
 New York State Agricultural Experiment Station, Geneva, N. Y.: Apples and plums, 1900.
 New York State Paris Exposition Commission, New York City: Apples, pears, and plums, 1899-1900.
 North Carolina Department of Agriculture, Raleigh, N. C.: Apples, 1899-1900.
 Norwood, W. M., Rhea, Ark.: Apples, 1900.
 Ohio State Horticultural Society, E. H. Cushman, president, Euclid, Ohio: Apples, 1900.
 Olden Fruit Company, Olden, Mo.: Apples, 1900.
 Ozark Orchard Company, Goodman, Mo.: Apples, 1900.
 Page, W. S., Bethany, N. Y.: Apples, 1899.
 Parker, J. O., Larkin, Kans.: Apples, 1899.
 Patchett, Joseph, Billsboro, N. Y.: Apples, 1899.
 Paul & Ellison, Crozet, Va.: Apples, 1899.
 Paylor, John, Reeds Corners, N. Y.: Apples, 1900.
 Payne, John, Argentine, Kans.: Apples.
 Pearmain, J., Salem, Mo.: Apples, 1899.
 Pearson, W. M., Mexico, Mo.: Apples, 1899.
 Pedersen, Peder, Huntingdon Valley, Pa.: Apples, 1899.
 Peninsula Horticultural Society, Joseph E. Carter, president, Dover, Del.: Apples and pears, 1900.
 Perrine, I. B., Bluelakes, Idaho: Apples, 1899-1900; plums, 1900.
 Phinney, C. S., Standish, Me.: Apples, 1899.
 Phoenix, F. S., Bloomington, Ill.: Apples, 1899.
 Pierce, L. B., Tallmadge, Ohio: Apples, 1900.
 Pierce, O. R., Hudson, Mich.: Apples, 1899.
 Pillow, W. H., Reeds Corners, N. Y.: Apples, pears, and plums, 1900.
 Platt, E. B., Milford, Conn.: Apples, 1899.
 Platt, George F., & Son, Milford, Conn.: Apples, 1900.
 Platt, N. D., Milford, Conn.: Apples, 1899.
 Post, Herbert, Fort Worth, Tex.: Pecans, 1899.
 Powell, George T., Ghent, N. Y.: Apples and pears, 1899-1900.
 Prisch, D. L., Middleport, N. Y.: Apples, 1900.
 Proffitt, D. R., Burnsville, N. C.: Apples, 1899.
 Pullen, A., Milford, Del.: Apples and pears, 1900.
 Raffensparger, Lizzie J., Arendtsville, Pa.: Apples, 1899.
 Ranahan, Thomas, Weiser, Idaho: Apples, 1900.
 Rankin, J., Martinez, Cal.: Walnuts, 1899.
 Ray, G. D., Burnsville, N. C.: Apples, 1899.
 Ray, J. S., Burnsville, N. C.: Apples, 1899.

- Ray, R. F., Baldcreek, N. C.: Apples, 1900.
Ray, R. H., Cane River, N. C.: Apples, 1900.
Raymond, H. R., Alvord, Mo.: Apples, 1899.
Reed, Homer, Kansas City, Mo.: Apples, 1900.
Reeves, Elmer, Waverly, Iowa: Apples, 1900.
Rhind, Duncan, Canandaigua, N. Y.: Apples and plums, 1900.
Rich, A., Rhea, Ark.: Apples, 1900.
Richmond Horticultural Society, Richmond, Mo.: Apples, 1899.
Rider, Frank, Thornton, Wash.: Apples, 1899.
Riverside Orange Company, Riverside, Cal.: Oranges, 1899-1900.
Roberson, F. H., Purdy, Mo.: Apples, 1899.
Roberts, W. M., Republic, Mo.: Apples, 1899.
Robinson, Mrs. Thomas R., Halls Corners, N. Y.: Apples, 1899.
Robnett, D. A., Columbia, Mo.: Apples, 1900.
Rodenburg, Charles, Richmond, Ind.: Apples, 1899.
Rogers, Miss Alla, Lyons, N. Y.: Apples, 1900.
Rogers, E., New Britain, Conn.: Apples, 1899.
Roschi, J., Nevada, Mo.: Apples, 1899.
Ross, J. A., Thornton, Wash.: Apples, 1899.
Rousch, O. S., Salem, Mo.: Apples, 1899.
Russell, Elmira, Richmond, Ind.: Apples, 1899.
Rutherford, Joseph, Alquina, Ind.: Apples, 1899.
Ryan & Richardson, Leavenworth, Kans.: Apples, 1899-1900.
Scholl, Elias, Alquina, Ind.: Apples, 1899.
Sedgwick, Richard, Richmond, Ind.: Apples, 1899.
Sessen, G. L., Westplains, Mo.: Apples, 1899-1900.
Shaeffer, W. E., Lockport, N. Y.: Apples, 1900.
Shaw, Fred, Summerhill, Ill.: Apples, 1889-1900.
Shields, Mrs. Emily, Mills, Cal.: Almonds, 1899.
Shirley, A., Salem, Mo.: Apples, 1899.
Slaymaker, A. W., Camden, Del.: Apples, 1900.
Smith, E., & Son, Geneva, N. Y.: Pears, peaches, and plums, 1900.
Smith, Fred D., Mayview, Mo.: Apples, 1900.
Smith, George W., Mayview, Mo.: Apples, 1900.
Smith, Jacob E., Banners Elk, N. C.: Apples, 1899.
Smith, James F., Mayview, Mo.: Apples, 1900.
Smith, W. Q., Hilton, N. Y.: Apples, 1900.
Smith, W. & T. Company, Geneva, N. Y.: Apples, 1900.
Soverhill, S. G., Tiskilwa, Ill.: Apples, 1899.
Spadden, J. M., Salem, Mo.: Apples, 1899.
Spencer, George W., Westfield, N. Y.: Pears, 1900.
Stephens, E. F., Crete, Nebr.: Apples, 1899.
Stone, George A., Richmond, Mo.: Apples, 1899-1900.
Straub, John, Argentine, Kans.: Apples, 1900.
Strong, Mrs. H. W. R., Whittier, Cal.: Walnuts, 1899.
Stuart Pecan Company, Ocean Springs, Miss.: Pecans, 1899.
Tabor, R. H., Redbluff, Cal.: Almonds, 1899.
Taft, F. L. B., Leroy, N. Y.: Apples, 1899.
Taubman, Ed., Lexington, Mo.: Apples, 1900.
Taylor, Hughey, Waitsburg, Wash.: Apples, 1899.
Taylor, Robert, Las Cruces, N. Mex.: Apples, 1899.
Tenny, Delos, Hilton, N. Y.: Apples, 1899-1900.
Thomas, Ross, Alquina, Ind.: Apples, 1899.
Trimble, McGill & Co., Seymour, Mo.: Apples, 1899.

- Troutman, John H., Lakin, Kans.: Apples, 1899.
 Vanderbilt, Charles, Lyons, N. Y.: Apples, 1899.
 Van Shuler, Duane, Hilton, N. Y.: Apples, 1900.
 Vickars, James S., Mayview, Mo.: Apples, 1899.
 Vincenheller, W. G., Fayetteville, Ark.: Apples, 1900.
 Virginia State Horticultural Society, Samuel B. Woods, president, Charlottesville, Va.; Apples and pears, 1899-1900.
 Voris, F. D., Neoga, Ill.: Apples, 1900.
 Ward, William, Leroy, N. Y.: Apples, 1899.
 Warneke, Henry B., Lyons, N. Y.: Apples, 1900.
 Warner, E. C., New Haven, Conn.: Apples, 1899.
 Washington, B., Stonehill, Mo.: Apples, 1899.
 Wayman, H. R., Alvord, Mo.: Apples, 1899.
 Webster County Horticultural Society, Seymour, Mo.: Apples, 1899.
 Weidner, Aaron I., Arendtsville, Pa.: Apples, 1899.
 Weller, P., Salem, Mo.: Apples, 1899.
 West Virginia State Horticultural Society, R. C. Burkhart, president, Martinsburg, W. Va.: Apples, 1899.
 Whatley, Walter, Crozet, Va.: Apples, 1899.
 Williams, Prescott, Williamsburg, Mass.: Apples, 1899.
 Williams, W. W., Hilton, N. Y.: Apples, 1899.
 Wilson, Edgar, Boise, Idaho: Apples, 1900.
 Wilson, J. S., Wilson, Mo.: Apples, 1900.
 Winn, Charles G., Griggsville, Ill.: Apples, 1899.
 Woldert Grocery Company, Tyler, Tex.: Pecans, 1899.
 Wood, A., Carlton, N. Y.: Apples, 1899.
 Wood, C. A., Brashear, Mo.; Apples, 1899.
 Wood, C. B., Washington, Va.: Apples, 1899.
 Woodrome, B. C., Westplains, Mo.: Apples, 1899.
 Woodside, L. B., Salem, Mo.: Apples, 1899.
 Woodward & Jaques, Wrights Corners, N. Y.: Apples, 1900.
 Wray, W. B., Cane River, N. C.: Apples, 1899-1900.
 Wright, Charles, Seaford, Del.: Apples and peaches, 1900.
 Wright, Thomas, Kelsey, N. C.: Apples, 1899.
 Young, B. M., Morgan City, La.: Pecans, 1899.
 Young, William A., Butler, Ill.: Apples, 1899.

CLASS 46.—*Trees, shrubs, ornamental plants and flowers.*

- Burpee, W. Atlee, & Co., Philadelphia, Pa.: Collection 50 varieties sweet peas in bloom in pots, displayed in temporary competition, June 13, 1900.
 Lothrop & Higgins, East Bridgewater, Mass.: Collection of dahlias in open air.
 Michigan Seed Company, South Haven, Mich.: Collection of gladioli and dahlias in open air.

CLASS 47.—*Plants of the conservatory.*

- Studer, Nicholas, Washington, D. C.: Photographs of giant ferns (*Nephrolepis Washingtoniensis*, *erecta*, and *pendula*).

CLASS 48.—*Seeds and plants for gardens and nurseries.*

- Michigan Seed Company, South Haven, Mich.: Collection of garden seeds.
 Trumbull & Beebe (California Paris Commission), San Francisco, Cal.: Collection of garden seeds.

GROUP IX.—FORESTRY, HUNTING, FISHING, GATHERING WILD CROPS.

CLASS 49.—*Appliances and processes used in forestry.*

Department of Agriculture, U. S. A., Washington, D. C.: Photographs and writings pertaining to forests, their destruction, their preservation, and their relations to agriculture.

California Paris Exposition commission, San Francisco: Forestry photographs.

Fisheries, game, and forest commission of New York, Albany: Seventy specimens of New York native woods.

Forest and Stream Publishing Company, 346 Broadway, New York: Publications—Forest and Stream Journal; books upon outdoor sports.

Hough, Dr. Franklin B., Lowville, N. Y.: Publications relating to forestry.

Hough, Romeyn B., Lowville, N. Y.: Photographs of typical trees, illustrating their manner of growth.

Southern Railway Company, 719 Thirteenth street NW., Washington, D. C.: Photographs showing the processes of logging, milling, and transporting lumber.

CLASS 50.—*Products of the cultivation of forests and of forest industries.*

Albro, E. D., & Co., 1025 West Sixth street, Cincinnati, Ohio: Veneers and hard woods.

Bean, Tarleton H., 50 West Seventeenth street, New York: A cigar case made by Alaskan native on the island of Atka, from a native wild grass.

Bridgeport Wood Finishing Company, New Milford, Conn.: Finished hard woods.

California Paris Exposition Commission of 1900, Occidental Hotel, San Francisco, Cal.: Collective exhibit of woods for building and cabinetwork.

Department of forestry, United States Commission to Paris: Thin sections of woods of the United States, representing more than 250 species.

Fisheries, game, and forest commission of New York, Albany, N. Y.: Species of native commercial woods of the State of New York.

Forest and Stream Publishing Company, New York City: Publications and illustrations.

Hough, R. B., Lowville, N. Y.: Preparations of wood for the stereopticon and for the microscope; also publication entitled American Woods.

North Carolina State Board of Agriculture, Raleigh, N. C.: Commercial woods of North Carolina.

Peirce, W. E., & Co., Milford, N. H.: Collection of wooden ware.

Price, W. S., Manufacturers Record building, Baltimore, Md.: Collective exhibit of oak and other hard woods.

Southern Railway Company, 719 Thirteenth street NW., Washington, D. C.: Collection of woods of the southern United States. The logs, lumber, etc., used in the construction of the annex to forestry building.

Commercial forestry exhibit, Vincennes.

Contributing exhibitors:

C. L. Adler, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.

The E. D. Albro Company, Cincinnati, Ohio: Veneers and general hard woods.

Alcee, Stewart & Co., St. Louis, Mo.: General hard woods.

American Hard Wood Company, Nashville, Tenn.: General hard woods.

American Lumber and Manufacturing Company, Pittsburg, Pa.: White and yellow pine and general hard woods.

Contributing exhibitors—Continued.

- Anderson-Tully Company, Memphis, Tenn.: Box shooks, poplar, oak, and gum, and veneers.
- E. V. Babcock & Co., Pittsburg, Pa.: Hemlock, white and yellow pine, general hard woods.
- Leland G. Banning, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Barksdale, Denton & Co., Memphis, Tenn.: General hard woods.
- C. H. Barnaby, Greencastle, Ind.: Quartered oak, walnut, and ash.
- W. I. Barr, Greenfield, Ohio: Plain and quartered oak.
- William E. Barrett & Co., Grand Rapids, Mich.: General hard woods.
- B. Beimforde, Cincinnati, Ohio: General hard woods.
- Ira B. Bennett, Detroit, Mich.: General hard woods.
- E. T. Bennett & Co., Memphis, Tenn.: Ash, gum, and cottonwood.
- Bennett & Witte, Cincinnati, Ohio: Yellow poplar and yellow cottonwood.
- Bliss & Van Auken, Saginaw, Mich.: Hemlock, maple, and general hard woods.
- Bonsack Lumber Company, St. Louis, Mo.: General hard woods.
- Bowman Lumber Company, St. Albans, W. Va.: Yellow poplar lumber.
- B. Braughton & Co., Memphis, Tenn.: General hard woods.
- The Ferd. Brenner Lumber Company, Chattanooga, Tenn.: Oak, ash, walnut, and general hard woods.
- James T. Buckley, Brookville, Ind.: Oak, ash, walnut, and general hard woods.
- Buffalo Hard Wood Lumber Company, Buffalo, N. Y.: General hard woods.
- Burt & Brabb Lumber Company, Ford, Ky.: Poplar, oak, and walnut.
- Chippewa Logging & Boom Company, Chippewa Falls, Wis.: White pine.
- Christian Brothers, Junction City, Ky.: General hard woods.
- Cochran Lumber Company, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Frederick W. Cole, New York, N. Y.: White pine and general hard woods.
- C. L. Colman, La Crosse, Wis.: White pine.
- Combs Lumber Company, Lexington, Ky.: General hard woods.
- The Crosby & Beckley Company, New Haven, Conn.: Poplar and general hard woods.
- Cypress Lumber Company, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Daniels & Collin Company, Pittsburg, Pa.: General hard wood, white and yellow pine.
- J. W. Darling, Cincinnati, Ohio: Cottonwood and gum.
- R. J. Darnell, Memphis, Tenn.: General hard woods.
- I. M. Darnell & Son Company, Memphis, Tenn.: Quartered oak, gum, poplar, and walnut.
- W. V. Davidson Lumber Company, Nashville, Tenn.: Yellow poplar, oak, and ash.
- Day Brothers Lumber Company, Jackson, Ky.: Yellow poplar and oak.
- De Montcourt & Ohara, Cairo, Ill.: Oak, cottonwood, gum, and ash.
- Devereux Lumber Company, Charleston, W. Va.: Poplar and oak.
- C. W. Dewey, Rockford, Ill.: General hard woods.
- John Dulweber & Co., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- H. G. Dykhouse, Grand Rapids, Mich.: General hard woods.
- E. L. Edwards, Dayton, Ohio: White and yellow pine.
- Empire Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- English & Co., Knoxville, Tenn.: General hard woods.
- M. B. Farrin, Cincinnati, Ohio: Yellow pine, poplar, cottonwood, oak.
- Theo. Fathauer, Chicago, Ill.: Maple, basswood, and Wisconsin red oak.

Contributing exhibitors—Continued.

- The Fisher Wilson Company, Cleveland, Ohio: White and yellow pine, general hard woods.
- Flint, Erving & Lindsay, Pittsburg, Pa.: White and yellow pine and general hard woods.
- W. Forgie, Washington, Pa.: General hard woods.
- A. V. Fuhrmann, Cincinnati, Ohio: General hard woods and yellow pine.
- Gage & Possell, Cincinnati, Ohio: Oak, ash, hickory, walnut, and general hard woods.
- D. L. Gillespie & Co., Pittsburg, Pa.: General hard woods.
- Gladden Lumber Company, Indianapolis, Ind.: General hard woods.
- Glen Jean Lumber Company, Glen Jean, W. Va.: General hard woods.
- Goodman & Wright, Cincinnati, Ohio: Yellow pine and cypress.
- Graham Lumber Company, Cincinnati, Ohio: Yellow poplar, plain and quartered oak.
- Lloyd G. Harris Manufacturing Company, St. Louis, Mo.: General hard woods.
- Heath, Witbeck & Co., Chicago, Ill.: Poplar, ash, oak, maple, and general hard woods.
- Himmelberger-Luce Land and Lumber Company, Morehouse, Mo.: Oak, ash, and gum.
- H. C. Hossafous, Dayton, Ohio: General hard woods.
- Houck & Ely, Dayton, Ohio: Quartered oak and walnut.
- John W. Hussey, New York, N. Y.: General hard woods.
- James Lumber Company, Charleston, W. Va.: Poplar and oak.
- Robert H. Jenks Lumber Company, Cleveland, Ohio: White and yellow pine, general hard woods.
- Kaul & Hall Lumber Company, St. Marys, Pa.: Hemlock, cherry, oak, and chestnut lumber.
- Kelly Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- Kelly Shingle Company, Traverse City, Mich.: General hard woods.
- W. O. King & Co., Chicago, Ill.: Maple and Wisconsin red oak.
- B. A. Kipp & Co., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- The Kirk-Christy Company, Cleveland, Ohio: Yellow poplar, plain and quartered oak.
- Knoxville Sawmill Company, Knoxville, Tenn.: General hard woods.
- Laird-Norton Company, Winona, Minn.: White pine.
- Aug. J. Lang, St. Louis, Mo.: General hard woods.
- Lesh & Matthews Lumber Company, Chicago, Ill.: Walnut, quartered oak, ash, gum, and general hard woods.
- Frank Littleford & Bro., Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- Love, Boyd & Co., Nashville, Tenn.: Yellow poplar, oak, and ash.
- Chas. F. Luehrmann Hard Wood Lumber Company, St. Louis, Mo.: General hard woods.
- A. J. McCausland Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
- Moore & McFerren, Memphis, Tenn.: Cottonwood and gum.
- Henry Maley, Edinburg, Ind.: Plain and quartered white and red oak.
- Maley Thompson & Moffett, Cincinnati, Ohio: Oak, ash, walnut, and general hard woods.
- C. C. Mengel, jr., & Bro. Company, Louisville, Ky.: Cottonwood, gum, oak, ash.
- Mohler Lumber Company, Lock Seven, W. Va.: Poplar and oak.
- Murphy, Diebold & Sons, Memphis, Tenn.: Gum, cottonwood, and oak.

Contributing exhibitors—Continued.

- D. H. Myers, Richmond, Ky.: General hard woods.
 Nelson Tuthill Lumber Company, Minneapolis, Minn.: White pine.
 Nicola Brothers Company, Pittsburg, Pa.: White and yellow pine and general hard woods.
 F. I. Nichols & Co., Grand Rapids, Mich.: General hard woods.
 H. M. Nixon Lumber Company, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
 Northern Lumber Company, Cloquet, Minn.: White pine.
 Pine Tree Lumber Company, Little Falls, Minn.: White pine.
 Plummer-Benedict Lumber Company, St. Louis, Mo.: General hard woods.
 John B. Ransom & Co., Nashville, Tenn.: Yellow poplar, oak, and ash.
 Retail Lumber Dealers' Association of the State of Indiana.
 W. M. Ritter, Columbus, Ohio: Poplar, plain and quartered oak, and white pine.
 Royal & Soper Company, Nicholasville, Ky.: General hard woods.
 Russe & Burgess, Memphis, Tenn.: Oak, ash, gum, cottonwood, and general hard woods.
 Saginaw Lumber Dealers' Association, Saginaw, Mich.
 Chas. A. Sand, Grand Rapids, Mich.: General hard woods.
 Saxton & Co., Knoxville, Tenn.: General hard woods.
 Shepard, Farmer & Co., Boston, Mass.: Quartered oak and general hard woods.
 Shevlin Carpenter Company, Minneapolis, Minn.: White pine.
 F. H. Smith & Co., St. Louis, Mo.: General hard woods.
 C. A. Smith Lumber Company, Minneapolis, Minn.: White pine.
 E. R. Spotswood & Son, Lexington, Ky.: Yellow poplar and oak.
 Steele & Hibbard, St. Louis, Mo.: General hard woods.
 M. E. Stockwell & Co., Grand Rapids, Mich.: General hard woods.
 T. B. Stone Lumber Company, Cincinnati, Ohio.: Yellow poplar, oak, ash, and general hard woods.
 George W. Stoneman, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
 Strifler & Wehinger Lumber Company, St. Louis, Mo.: General hard woods.
 Sunflower Lumber Company, Doddsville, Miss.: General hard woods.
 Swagerty & Eubank, Knoxville, Tenn.: General hard woods.
 Swain Brothers, Winton Place, Ohio: Plain and quartered oak, ash, and walnut.
 W. R. Tabor & Co., Rothwell, Ky.: General hard woods.
 J. W. Thompson Lumber Company, Memphis, Tenn.: Oak, ash, cottonwood, gum, and walnut.
 Three States Lumber Company, Cairo, Ill.: Cottonwood, gum, oak, and ash.
 Trump Lumber Company, St. Louis, Mo.: General hard woods.
 Vansant, Kitchen & Co., Ashland, Ky.: Yellow poplar, plain and quartered oak, and general hard woods.
 Vinnedge Brothers, Chicago, Ill.: Quartered oak, poplar, gum, ash, and general hard woods.
 J. P. Walters Lumber Company, Crawfordsville, Ind.: Plain and quartered oak.
 Isaac L. Watts, Memphis, Tenn.: Thin plain and quartered oak, gum, and ash.
 Louis Werner Sawmill Company, St. Louis, Mo.: General hard woods.
 W. M. Weston Company, Boston, Mass.: Quartered oak and walnut.
 R. B. Wheeler & Co., Philadelphia, Pa.: General hard woods.
 Wiborg, Hanna & Co., Cincinnati, Ohio.: Yellow poplar, oak, ash, and general hard woods.
 Wood-Barker Company, Boston, Mass.: Cypress, yellow pine, and general hard woods.
 Yellow Poplar Lumber Company, Coalgrove, Ohio: Yellow poplar and oak.
 Zeigler & Reinwald, Carmi, Ill.: General hard woods.

North Carolina Pine Association:

Camp Manufacturing Company, Franklin, Va.
Branning Manufacturing Company, Edenton, N. C.
John L. Roper Lumber Company, Norfolk, Va.
Surry Lumber Company (R. T. Waters & Son), Baltimore, Md.
Greenleaf Johnson Lumber Company, Norfolk, Va.
Roanoke Railroad and Lumber Company, Norfolk, Va.
Atlantic Coast Lumber Company, Norfolk, Va.
Tunis Lumber Company, Norfolk, Va.
The Cummer Company, Norfolk, Va.
Cape Fear Lumber Company, Wilmington, N. C.
Frank Hitch Lumber Company, Norfolk, Va.
Eureka Lumber Company, Washington, N. C.
Suffolk Saw Mill Company, Suffolk, Va.
George F. Sloan & Bro., Baltimore, Md.
Alfred B. Cramer, Suffolk, Va.
Alleghany Lumber Company, Washington, N. C.
Butters Lumber Company, Boardman, N. C.
Dennis-Simmons Lumber Company, Williamston, N. C.
Pungo Lumber Company, Washington, N. C.

Southern (Pitch Pine) Lumber Manufacturers' Association:

Sample Lumber Company, Hollins, Ala.
Lathrop, Hatten Lumber Company, Riverside, Ala.
Eastman, Gardiner & Co., Laurel, Miss.
M. R. Grant, Meridian, Miss.
A. W. Stevens, Chattawa, Miss.
Eastabuchie Lumber Company, Eastabuchie, Miss.
J. J. White, McComb City, Miss.
A. L. Linehard, Handsboro, Miss.
J. T. Arnold, Curren, Miss.
St. Louis Refrigerator and Wooden Gutter Company, St. Louis, Mo.
Chicago Lumber and Coal Company, St. Louis, Mo.
C. J. Carter Lumber Company, Kansas City, Mo.
W. R. Pickering Lumber Company, Kansas City, Mo.
Central Coal and Coke Company, Kansas City, Mo.
Missouri Lumber and Mining Company, Grandin, Mo.
William Carlisle & Co., Atchison, Kans.
Hudson River Lumber Company, Hudson, Ark.
Eagle Lumber Company, Eagle Mills, Ark.
Junction City Lumber Company, Junction City, Ark.
Fordyce Lumber Company, Fordyce, Ark.
Lester Mill Company, Lester, Ark.
Klondike Lumber Company, Winthrop, Ark.
A. J. Kiser, Rankin, Ark.
H. C. McDaniels Lumber Company, Eldorado, Ark.
Summit Lumber Company, Upland, Ark.
Big Creek Lumber Company, Pollock, La.
Allen Bros. & Wadley, Allentown, La.
Allen & Curry, Shreveport, La.
Amos Kent Lumber and Brick Company, Kentwood, La.
Perkins & Miller Lumber Company, West Lake, La.
Whited & Wheless, Limited, Allen Bridge, La.
Central Lumber Company, Limited, Lincecum, La.
Montrose Lumber Company, Montrose, La.

Southern (Pitch Pine) Lumber Manufacturers' Association—Continued.

E. G. Swartz, Swartz, La., and Kansas City, Mo.
 Natalbany Lumber Company, Natalbany, La.
 Globe Lumber Company, Yellow Pine, La.
 King-Ryder Lumber Company, Thomasville, Ind. T.
 Reliance Lumber Company, Beaumont, Tex.
 Kingston Lumber Company, Laurel, Miss.
 Moreton & Helms Lumber Company, Brookhaven, Miss.
 J. J. Newman Lumber Company, Hattiesburg, Miss.
 Champion Lumber Company, Orvisburg, Miss.
 Enochs Brothers, Fernwood, Miss.
 W. W. Lambert, Poplarville, Miss.
 Horseshoe Lumber Company, River Falls, Ala.
 Milner, Caldwell & Flowers, Bolling, Ala.
 W. W. Wadsworth, Wadsworth, Ala.
 Wagar Lumber Company, Wagar, Ala.
 Vinegar Bend Lumber Company, Vinegar Bend, Ala.
 J. W. Bollin, Wilsonville, Ala.
 E. E. Jackson Lumber Company, Riderville, Ala.; Washington, D. C.
 H. H. Tift, Tifton, Ga.
 J. S. Bailey & Co., McDonald's Mill, Ga.
 The Cummer Lumber Company, Jacksonville, Fla.

Maple Flooring Manufacturers' Association:

The Buffalo Maple Flooring Company, Buffalo, N. Y.
 Dwight Lumber Company, **Detroit**, Mich.
 Thomas Forman Company, Petoskey, Mich.
 Rittenhouse & Embree Company, Chicago, Ill.
 South Side Lumber Company, Chicago, Ill.
 Henry Stephens & Co., Detroit, Mich.
 The T. Wilce Company, Chicago, Ill.
 Wilson Land and Lumber Company, Hermansville, Mich.
 W. D. Young & Co., West Bay City, Mich.

CLASS 51.—*Hunting equipments.*

Barnard, George, & Co., New York (in class 100): Sporting arms.
 Forest and Stream Publishing Company, New York: Publications and illustrations.
 Oneida Community, Limited, Kenwood, N. Y.: The Newhouse animal trap.
 Savage Arms Company, Utica, N. Y.: Repeating rifles.
 Smith & Wesson, Springfield, Mass.: Revolvers and pistols, and shooting gallery at Vincennes.
 Tiffany & Co., New York City: Hunting equipments.

CLASS 52.—*Products of hunting.*

Asch & Jaeckel, New York (in class 85): Manufactured furs and skins.
 Century Company, New York: Drawings of seals, sea lions, etc., made by Charles B. Hudson.
 Department of Agriculture, U. S. A., Washington, D. C.: Mounted groups of raccoons and opossums.
 Elliot, Dr. D. G., Field Columbian Museum, Chicago: Publications upon birds.
 Forest and Stream Publishing Company, New York: Publications and illustrations.
 Gunther, J., Middletown, N. Y.: Mounted heads of wild animals.
 Hudson, Charles B., New York: Drawings of seals, sea lions, etc., loaned by the Century Company, New York.
 Jordan, Dr. David Starr, Stanford University, Cal.: Publications upon birds, mammals, etc.

- Mather, Fred, Lake Nebagomoin, Douglas County, Wis.: Publication upon hunting.
- Nelson, E. W., Washington, D. C.: Report upon collections made in Alaska.
- North Carolina State board of agriculture, Raleigh, N. C.: Series of aquatic birds, groups of loons, and quail.
- Phillips, C. S., Glover, Vt.: Mounted heads, etc., of deer.
- Shiras, George, 3d, Pittsburgh, Pa.: Flash-light pictures of living wild animals.
- Wallihan, A. G., Lay, Colo.: Photographs of wild game.

CLASS 53.—*Fishing equipment and products—Fish culture.*

- Abbey & Imbrie, New York City: Angling tackle.
- American Museum of Natural History, Central Park, New York: Mounted lobster. Weighed 33 pounds when alive.
- American Net and Twine Company, 93 Commercial street, Boston, Mass.: Fishing nets.
- Atwater, Prof. W. O., chemical laboratory, Wesleyan University, Middletown, Conn.: Publication upon chemical analyses of fishes and invertebrates.
- Baldwin, A. H., zoological artist, 1826 G street, Washington, D. C.: Fish drawings.
- Bean, Barton A., U. S. National Museum, Washington, D. C.: Publications upon fishes.
- Bean, Tarleton H., 50 West Seventeenth street, New York City: Gill nets, fishing line, and salmon spear used by Alaskan Eskimo; publications on fish, fisheries, and fish culture.
- Benn, John, San Francisco, Cal.: Artificial flies.
- Bien, Julius, & Co., 140 Sixth avenue, New York: Chromolithographs of fish drawings.
- Blackford, Dr. C. M., jr., Craig Brook Station, East Orland, Me.: Publications upon fish culture.
- Bumpus, Prof. H. C., Brown University, Providence, R. I.: Publications upon marine zoology.
- California Paris Exposition commission, San Francisco, Cal.: Fishery apparatus and illustrations; fish casts.
- Dean, Dr. Bashford, Columbia University, New York: Publications upon development and relationships of fishes, etc.
- Department of Forestry and Fisheries, United States Commission to Paris: Photographs of persons eminent as investigators and authors in various branches of natural history.
- Eigenmann, Prof. C. H., Indiana University, Bloomington, Ind.: Publications upon fishes and other aquatic animals.
- Evermann, Dr. B. W., United States Fish Commission, Washington, D. C.: Publications upon fishes of North America, West Indies, etc.
- Forest and Stream Publishing Company, New York: Publications and illustrations.
- Fraine, Thomas W., 16 Joslyn Park, Rochester, N. Y.: Rainbow trout, Sunapee trout, and grayling.
- Green, Monroe A., Rochester, N. Y.: Box for transporting eggs of fish; artificial flies on barbless hooks.
- Henshall, Dr. J. A., Bozeman, Mont.: Publications upon fishes.
- Hooper, W. J., Manufacturing Company, 116 South street, Baltimore, Md.: Models of seines, nets, and traps used in the fisheries.
- Howarth, S., Florissant, Colo.: Artificial flies for trout and grayling.
- Jordan, Dr. David Starr, Leland Stanford, jr., University, Cal.: Publications upon fishes, cetacea, etc.
- Kendall, Dr. W. C., United States Fish Commission, Washington, D. C.: Publications relating to fish, fisheries, and fish culture.
- Kirsch, P. H., Benson, Ariz.: Publications on fishes.
- Kofoed, Prof. C. A., Illinois State Laboratory of Natural History, Urbana, Ill.: Publications upon fresh-water zoology.

- Linton, Prof. Edwin, biological laboratory, Washington and Jefferson College, Washington, Pa.: Publications upon fish parasites.
- McCarthy, Eugene, Syracuse, N. Y.: Publications upon fish and fishing.
- Massachusetts board of Paris Exposition managers, Boston: Model of Gloucester fishery and fishery apparatus.
- Mather, Fred, 63 Linden street, Brooklyn, N. Y.: Publications upon fish and fishing.
- Meek, Seth Eugene, Field Columbian Museum, Chicago: Publications upon fish.
- Milam, B. C., & Son, Frankfort, Ky.: Fishing reels.
- New Bedford Oil Company, East Boston, Mass.: Watch, clock, and chronometer oils.
- Rogers, W. H., 257 Washington street, Boston, Mass.: Drawings of the Rogers fishway.
- Smith, Hugh M., United States Fish Commission, Washington, D. C.: Publications upon fish and fisheries.
- Smith, Eugene, 317 Washington street, Hoboken, N. J.: Publications upon fish and reptiles.
- Smith, Jay C., 26 T Wharf, Boston, Mass.: Models of lobster-fishing vessel and apparatus.
- Stejneger, Dr. Leonhard, United States National Museum, Washington, D. C.: Publications upon fur seal, sea cow, natural history of Commander Islands, etc.
- Stevenson, C. H., United States Fish Commission, Washington, D. C.: Publications upon fishery methods and preservation of fish for food.
- Tanner, Commander Z. L., U. S. N., 1613 New Hampshire avenue, Washington, D. C.: Publication upon deep-sea investigation.
- Tiffany & Co., Union Square, New York: American fresh-water pearls and shells in which they are found.
- Titcomb, John W., president of the fish and game commission, St. Johnsbury, Vt.: Publications relating to fish, fisheries, and fish culture.
- True, Dr. F. W., United States National Museum, Washington, D. C.: Publication relating to the delphinidæ.
- United States Commission of Fish and Fisheries, Washington, D. C.: Models of apparatus for hatching and transporting fish; models and drawings of fishes. Photographs and statistics.
- Wilcox, W. A., United States Fish Commission, Washington, D. C.: Publications relating to fish, fisheries, and fish culture.
- Wing, J. & W. R., New Bedford, Mass.: Whaling implements.
- Woolman, Prof. A. J., Central High School, Duluth, Minn.: Publications relating to fish and fisheries.

CLASS 54.—*Appliances for gathering wild crops, and products obtained.*

- North Carolina State board of agriculture, Raleigh, N. C.: Collection of herbs, roots, barks, seeds, etc., used in medicine.

GROUP X.—FOOD STUFFS.

CLASS 55.—*Equipment and methods employed in the preparation of food.*

- Armour & Co., Chicago, Ill.: Operations of meat slaughter and packing.
- Chase, A. J., Sudbury, Boston, Mass.: Chase's patent cold-blast butter cooler.
- Enterprise Manufacturing Company, Philadelphia, Pa.: Food mills.
- Libby, McNeill & Libby, Union Stock Yards, Chicago, Ill.: Model of packing house in operation.
- Liquid Air Refrigeration and Power Company, Boston, Mass.: Chase's cold-blast refrigerator.
- North Brothers Manufacturing Company, Philadelphia, Pa.: Ice-cream freezers and accessories.

Swift & Co., Union Stock Yards, Chicago, Ill.: Model of a refrigerator railway car.
 Union Stock Yard Company, Chicago, Ill.: Photographic illustration of facilities and methods of marking cattle, sheep, and swine.

CLASS 56.—*Farinaceous products and their derivatives.*

Alliance Milling Company, Debton, Tex.: Flour manufactured from soft winter wheat.
 American Cereal Company, Chicago, Ill.: Collective exhibit of cereal products
 Battle Creek Sanitarium Health Food Company, Battle Creek, Mich.: Cereal products and health foods.
 Cascade Mill, Akron, Ohio: Cereals—Wheat Farina, Graham, Wheat Graham, Amber Graham.
 Cereal Food Company, Peoria, Ill.: Hulled corn
 Cereal Machine Company, Worcester, Mass.: Shredded wheat products.
 Cereal Mill, Akron, Ohio: Cereals—American steel-cut oatmeal, farinose, cracked wheat, oatmeals, oat flour, corn meal, golden maize, hominy, etc.
 Decatur Cereal Mill Company, Decatur, Ill.; White-corn products, prepared by modern processes of milling. All kiln-dried.
 Del Monte Milling Company, San Francisco, Cal.: Flour, cereals, and whole grains.
 Empire Mill, Akron, Ohio: Cereals—Hominy, corn meal, corn flour, rye flour, barley groats.
 Health Food Company, 61 Fifth avenue, New York: Wheatena, infants' and invalids' food.
 Imperial Mill, Chicago, Ill.: Oatmeals, steel cut and ground.
 Indianapolis Hominy Mills, Indianapolis, Ind.: Maize products for food and for brewing.
 National Starch Manufacturing Company, 1 Broadway, New York: Pearl starch, maizena (brand of corn flour), corn oil.
 North Star Mills, Cedar Rapids, Iowa: Cereals—Flaked-oat groats, corn meal, bolted corn meal, cream corn meal, and corn flour.
 Pillsbury-Washburn Company, Minneapolis, Minn.: Exhibit of flour and cereal products.
 Postum Cereal Company, Battle Creek, Mich.: Grape nuts, breakfast food, and postum cereal coffee.
 Sanitas Nut Food Company, Limited, Battle Creek, Mich.: Nut foods, nut meal, brumose, malted nuts, and protose.
 Scotch Oats Mill, Kansas City, Mo.: Rolled oats, Scotch rolled oats.
 Sperry Flour Company, San Francisco, Cal.: "Germea," a food for infants, etc.
 Stone Mill, Akron, Ohio: Quaker wheat flour, wheat products.
 United States Frumentum Company, Detroit, Mich.: Frumentum corn flakes, also white corn flour.
 Washburn-Crosby Company, Minneapolis, Minn.: Exhibit of flour and cereal products.

CLASS 57.—*Bread and pastry.*

National Biscuit Company, Chicago, Ill., and New York: Exhibit of leading forms of bakery goods, biscuits, cakes, etc., manufactured in the United States.

CLASS 58.—*Preserved meats, fish, vegetables, and fruit.*

Ames, J. O., Red Bluff, Cal.: Kelsey plums.
 Alaska Packers' Association, San Francisco, Cal.: Canned salmon.
 Anderson, O. M., Red Bluff, Cal.: White cling peaches.
 Anker Manufacturing Company, New York City: Bouillon capsules, liquid bouillon, junket capsules.

- Armour & Co., Chicago: Canned foods, sausages, smoked meats, extract of beef.
- Armour Packing Company, Kansas City, Mo.: Preserved meats, pork and beef products.
- Barataria Canning Company, Biloxi, Miss.: Canned crab meat, shrimp, fish, oysters; figs, canned and preserved.
- Barr, G. W., Fresno, Cal.: Dried fruits.
- Beardsley's, J. W., Sons, New York City: Shredded codfish, sliced smoked beef, boneless herring.
- Bouillon Stock Manufacturing Company, The, Chicago: Wahl's bouillon stock, made from yeast plant only.
- Brown, Paul Taylor, Company, New York City: Vegetables in tin and in glass.
- California Fish Company, Los Angeles, Cal.: Sardines.
- California Paris Exposition Commission, San Francisco, Cal.: Canned goods.
- Campbell, Joseph, Preserve Company, Camden, N. J.: Soups.
- Castle Brothers, Fresno, Cal.: Dried apricots, peaches, and pears.
- Chipman, N. P., Red Bluff, Cal.: Muir peaches.
- Cone, D. S., Red Bluff, Cal.: Dried prunes, peaches, and pears.
- Curtice Brothers Company, Rochester, N. Y.: Canned fruits, vegetables, soups, and meats; preserved fruits and vegetables.
- Dairymen's Union, The, San Francisco, Cal.: Smoked meats.
- Department of Agriculture United States, Bureau of Animal Industry, Washington, D. C.: Collective exhibit of meats, frozen, salted, and canned; meat products.
- Doxsee, J. H., & Sons, Islip, N. Y.: Canned clams and clam juice.
- Duncan, Mrs. M., Red Bluff, Cal.: Dried fruits.
- Erie Preserving Company, Red Bluff, Cal.: Canned fruits and vegetables; table delicacies.
- Forsythe, William, Fresno, Cal.: Dried figs and raisins, seeded raisins.
- Franco-American Food Company, The, Jersey Heights, N. J.: Preserved soups and meats.
- Fresno Chamber of Commerce, Fresno, Cal.: Dried fruits.
- German-American Provision Company, Chicago: Canned meats and sausages.
- Geneva Preserving Company, Geneva, N. Y.: Canned fruits and vegetables.
- Goetjen, N., San Francisco, Cal.: Canned soups, meats, and vegetables.
- Hickmott Canning Company, San Francisco, Cal.: Canned asparagus.
- Hobbs, A. L., Fresno, Cal.: Dried fruit.
- Howell, B. F., Red Bluff, Cal.: Nectarines.
- Huckins, J. H. W., & Co., Boston, Mass.: Canned soups and deviled meats.
- Imperial Packing Company, Canajoharie, N. Y.: Canned bacon, beef, and ham, sliced.
- Inderriaden, J. B., Fresno, Cal.: Dried fruit.
- Jensen, N. P., Fresno, Cal.: Dried fruit.
- Kapp & Street, San Francisco, Cal.: Canned meats, tamales, chili con carne, frijoles, enchilades, chicken soup.
- Kemp, Day & Co., New York: Canned vegetables, fruits, and fish products.
- Kimble Estate, Fresno, Cal.: Dried fruits.
- Knox, Charles B., Johnstown, N. Y.: Gelatine for domestic purposes.
- Lewis, W. L., Fresno, Cal.: Dried fruit.
- Lewis, D. W., Fresno, Cal.: Dried fruits.
- Libby, McNeill & Libby, Chicago: Canned meats, soups, smoked meats, sausage.
- Philadelphia, 1876, bronze medal; Paris, 1878, gold medal.
- Los Angeles Chamber of Commerce, Los Angeles, Cal.: Dried fruit.
- Loud & Gerling, Pomona, Cal.: Dried apricots.
- McMenamin & Co., Hampton, Va.: Deviled crabs, in tins.
- Malaga Cooperative Company, Fresno, Cal.: Dried fruits.
- Malone & Smith, Ontario, Cal.: Dried prunes.

- Marcariar & Co., Fresno, Cal.: Dried fruits.
 Michigan Carbon Works, Detroit, Mich.; Gelatine, for food and for mechanical arts.
 Miley, A. C., Fresno, Cal.: Dried fruit.
 Minnehaha Vineyard, Fresno, Cal.: Dried fruit.
 Morris, Nelson, & Co., Chicago: Canned meats.
 Neal, John R., & Co., Boston, Mass.: Finan haddie.
 New York State Commission, Lyons, N. Y. Collective exhibit, as follows:
 The Petri Fruit Company.
 Bone Brothers.
 Shaeffer, W. E.
 Wayne County exhibitors.
 Noble Brothers, Fresno, Cal.: Dried fruits.
 Pacific Steam Whaling Company, San Francisco, Cal.: Canned salmon.
 Phoenix Packing Company, Fresno, Cal.: Dried fruits.
 Richards & Roberts, Dover, Del.: Canned meats, oysters, plum pudding.
 Runyon, E. W., Red Bluff, Cal.: Crawford peaches.
 Russell, Edward T., & Co., Boston, Mass.: Canned American sardines.
 Sacramento River Packers' Association, San Francisco, Cal.: Canned salmon.
 San Gabriel Fruit Company, San Gabriel, Cal.: Dried apricots and peaches.
 Santa Ana Chamber of Commerce, Santa Ana, Cal.; Dried prunes, apricots, and peaches.
 Sea Beach Pickling Works, Warrenton, Oreg.: Minced sea clams.
 Swift & Company, Chicago: Canned meats and food products; hams, bacon, lard.
 Tamale, I. X. L., Company, San Francisco, Cal.: Tamales, frijoles, enchiladas, chili con carne, chicken soup.
 Trowbridge, D. S., Fresno, Cal.: Dried fruits.
 Van Camp Packing Company, Indianapolis, Ind.: Canned meats, soups, and vegetables.
 Viau, Lewis, Fresno, Cal.: Dried fruits.
 Voice Brothers, Fresno, Cal.: Dried yellow and Stanwick nectarines.
 Wagner, Martin, Company, Baltimore, Md.: Canned pineapple.
 Welch Grape Juice Company, Westfield, N. J.: Grape juice.
 Winkle, G. W., Fresno, Cal.: Dried fruit.
 Wonsom, William H., & Son, Gloucester, Mass.: Halibut.
 Zimmerman Brothers, Fresno, Cal.: Dried fruit.

CLASS 59.—*Sugar and confectionery—Condiments and relishes.*

- Baker, Walter, & Co., Limited, Dorchester, Mass.: Cocoa and chocolate preparations.
 Bishop & Co., Los Angeles, Cal.: Crystallized glazed fruits.
 Clarksville Cider Company, St. Louis, Mo.: Vinegar.
 California Canneries Company, Limited: Canned fruits, jams, and preserves.
 California Packing Company, San Francisco, Cal.: Preserves and jams, condiments and relishes.
 Crystal Salt Works, Los Angeles, Cal.: Table salt in glass jars, half-ground salt for dairy or table purposes.
 Curtice Brothers Company, Rochester, N. Y.: Maple sirup and sugars.
 Department of Agriculture, Washington, D. C.: Collective exhibit of sugars, sirups, and confections.
 Dillings & Co., Marion, Ind.: Confections, satin-finish stick candy and buttercup goods packed in tin or glass.
 Flicklinger, J. H., Company, San Jose, Cal.: Canned fruits.
 Gulden, Charles, 46-48 Elizabeth street, New York: Prepared mustards.
 Hayne & Whitaker, New York: Milk sugar.

Heinz, H. J., Company, Pittsburg, Pa.: Pickles, preserves, and food products, 57 varieties shown; including tomato ketchup, tomato chutney, and tomato soup; baked beans with tomato sauce, sweet pickles, midget gherkins, India relish, and evaporated horseradish.

Joslin, C. T., Malden, Mass.: Maple sirups and sugars.

Kenny, Seth, & Son, Morristown, Minn.: Sorghum molasses.

Los Alamitos Beet Sugar Company, Los Alamitos, Cal.: Beet sugar and beet products.

Marsh, Miss Bessie, South Pasadena, Cal.: Crystallized flowers.

Louisiana Sugar Planters' Association, New Orleans, La.: Cane sugar, molasses, massequite, etc.

Michigan Beet Sugar Association, Detroit, Mich.: Collective exhibit of beet sugar of various grades.

Pan Confection Company, Chicago, Ill.: Candies and confections.

Pioneer Salt Works, Mount Eden, Cal.: Table salt, rock salt for manufacturing purposes, dairy salt, coarse salt, and refined table salt.

Redondo Salt Works, Los Angeles, Cal.: Table salt in glass jars.

Richardson, William D., Fredericksburg, Va.: Pickles.

San Francisco Packing Company, San Francisco, Cal.: Green pickled California olives.

Sen Sen Company, Rochester, N. Y.: Chewing gum and breath perfume.

Shields, Mrs. Emily, Mills, Cal.: Orange marmalade.

Soniat, L. M., Dorceyville, La.: Cane sugar, molasses, and can products.

Southern California Salt Company, Los Angeles, Cal.: Table salt.

Spreckels Sugar Company, Salinas, Cal.: Beet sugar and beet products.

Thrasher, A. J., Pittsburg, Pa.: Maple sugar, sirup.

Towle Syrup Company, St. Paul, Minn.: Log cabin maple sirups and sugars

Union Pacific Salt Works, San Francisco, Cal.: Table salt.

Welch Maple Sugar Company, Burlington, Vt.: Maple sirups and sugars.

Williams, George, Los Angeles, Cal.: Worcester sauce.

CLASS 60.—*Wines and brandies.*

Adams, A. P., & Co., Fresno, Cal.: Wine.

Albertz, Ferdinand, Cloverdale, Cal.: Wines and brandies.

Baldwin, C. A., West Side, Santa Clara, Cal.: Wines.

Barton Estate Company, Fresno, Cal.: Wines and brandies.

Beard, John L., Warm Springs, Cal.: Wines.

Ben Lomond Wine Company, Ben Lomond Vineyard, Santa Cruz, Cal.: Wines.

Beringer Brothers, St. Helena, Cal.: Wines and brandies.

Boettcher, H., Los Angeles, Cal.: Wines and brandies.

Brotherhood Wine Company, New York: Wine.

California Paris Exposition, San Francisco, Cal.: Wines, red and white; sweet wines and boiled wines; sparkling wines, brandies.

California Wine Association, San Francisco, Cal.: Wines.

California Winery Company, Sacramento, Cal.: Wines.

Chaix & Bernard, San Francisco, Cal.: Wines.

Crellin, Louis, Pleasanton, Cal.: Wines.

Cupertino Wines Company, Las Palmas Vineyard, Mountain View, Cal.: Wines, Cabernet Franc, Cabernet Sauvignon, Semillion.

Dewey & Sons, New York: Wines.

Duval, A., Livermore, Cal.: Wine.

Eisen Vineyard, Fresno, Cal.: Wines.

Department of Agriculture, Division of Chemistry, Washington, D. C.: Ordinary wines, red and white; sweet wines and boiled wines; sparkling wines, brandies.

Empire State Wine Company, Penn Yan, N. Y.: Wines.

- Engels & Krudwig Wine Company, Sandusky, Ohio: Wines and brandies.
- Finke's, A., Widow, San Francisco, Cal.: Wines.
- Florida Brandy Distilling Company, Tallahassee, Fla.: Wines, brandies, and cordials.
- Garrett & Co., Weldon, N. C.: Wines.
- Garmain, Edward, Wine Company, Los Angeles, Cal.: Wines.
- Garmania Wine Cellars Company, Hammondsport and Rheims, N. Y.: Wines and brandy.
- Gier, Theodore, Company, Oakland, Cal.: Wines.
- Grierson, Oldham & Company, San Francisco, Cal.: Wines and brandies.
- Guasti-Secondo, Los Angeles, Cal.: Wines.
- Gundlach Bundschu Wine Company, Bacchus Vineyards, Rhine Farm, Sonoma, Cal.: Wines and brandies.
- Gunn, James, O. B., Windsor, Cal.: Wines.
- Hammond, Charles Mifflin, Ma Tel Vineyard, Upper Lake, Cal.: Wines and brandy.
- Haraszthy, Arpad, San Francisco, Cal.: Wines.
- Hastings Estate, La Jota Vineyard, Angwin, Cal.: Wines.
- Heney, Richard, jr., Chateau Ricardo Vineyard, Cupertino, Cal.: Wines.
- Hess, Frederick, Pine Crest Vineyard, Howell Mountain, Napa County, Cal.: White wine, Reisling.
- Hoelscher, William, & Co., San Francisco, Cal.: Wines.
- Hommell, M., 924 Clinton street, Sandusky, Ohio: Wines.
- Italian-Swiss Agricultural Colony, Asti, Cal.: Wines and brandy.
- Keyes, W. S., Liparita Vineyard, Angwin, Cal.: Wines.
- Koster, John L., Mount Hamilton Vineyard, San Jose, Cal.: Wines.
- Lake Keuka Wine Company, Hammondsport, N. Y.: Wines.
- McIver, C. C., Linda Vista Vineyard, Mission San Jose, Cal.: Wines.
- Malta, George H., St. George Vineyard, Fresno, Cal.: Wines.
- Mann, C. M.: Santa Rosa, Cal.: Wines and brandy.
- Masson, Paul, San Jose, Cal.: Wines.
- Merithew, J. C., Prospect Vineyard, Westside, Cal.: Wines and brandy.
- Meyer, John, Santa Cruz, Cal.: Wines.
- Migilavacca, G., Napa City, Cal.: Wine.
- Monticello Wine Company, Charlottesville, Va.: Wines.
- New Hammondsport Wine Company, Hammondsport, N. Y.: Wines.
- Palntag, William, Palntag's vineyard, Hollister, Cal.: Wines and brandy.
- Pleasant Valley Wine Company, Rheims, N. Y.: Wine.
- Radovich, Bozo, San Jose, Cal.: Wine.
- Repsold & Company, San Francisco, Cal.: Wines and brandies.
- St. Hubert Wine Company, San Francisco, Cal.: Wine.
- San Luis Vineyard, Tallahassee, Fla.: Wines and brandies.
- Schilling, C., & Co., San Francisco, Cal.: Wines.
- Schram, Jacob, Schramberger Vineyard, St. Helena, Cal.: Wines.
- Sierra Madre Vintage Company, Lamanda, Cal.: Wines and brandy.
- Smith, Julius Paul, Olivina Vineyard, Cal.: Wines.
- Soramo, G., Los Angeles, Cal.: Wines and brandy.
- Southern California Wine Company, Los Angeles, Cal.: Wines and brandy.
- To-Kalon Wine Company, Washington, D. C.: Wines.
- Urbana Wine Company, Urbana, N. Y.: Wines.
- Vina Vineyard and Distilling Company, Vina, Cal.: Brandies.
- Wehner, William, Lomas Azules Vineyard, Evergreen, Cal.: Wines.
- West, George, & Sons, El Pinal Vineyard, Stockton, Cal.: Wines and brandies.
- Wetmore-Bowen Company, Cresta Blanca Vineyard, Livermore and San Francisco, Cal.: Wines.
- Woollacott, H. J., Los Angeles, Cal.: Wines and brandy.
- Xander, Christian, Washington, D. C.: Wines.

CLASS 61.—*Sirups and liqueurs, distilled spirits, commercial alcohol.*

Beck, Joseph, & Co., New York: Whisky.

Bernheim Brothers, Louisville, Ky.: Bourbon whiskies; Chicago, 1893, medal.

Cook & Bernheimer Company, 144 Franklin street, New York: Old Valley and Mount Vernon whiskies.

Department of Agriculture, United States, Division of Chemistry, Washington, D. C.:

Collective exhibit of whiskies, rums, alcohols, sirups, and liquors.

Faure, M., Los Angeles, Cal.: Tonic made from fruit juices (Independence).

Florida Brandy Distilling Company, Tallahassee, Fla.: Cordial.

Heublein, G. T., & Bros., Hartford, Conn.: Whiskies and cocktails.

Kirk, H. B., & Co., 67-69 Fulton street, New York: Old Crow rye whisky.

Large Distilling Company, Pittsburg, Pa.: Rye whiskies.

McCulloch, J. W., Owensboro, Ky.: Green River whisky.

Maryland Distilling Company, Baltimore, Md.: Rye whiskies.

Meadville Distilling Company, Vallonia, Pa.: Rye whiskies.

Netter, David & Co., Philadelphia, Pa.: Rye whisky, Telegram whisky.

Rheinstrom, Bettman, Johnson & Co., Cincinnati, Ohio: Liquors, cordials, and bitters.

Steinhart Bros. & Co., 134 Mott street, New York: Roxbury rye whisky.

Stitzel Brothers, Louisville, Ky.: Bourbon whisky.

Victor Malt Whiskey Company, San Francisco, Cal.: Malt whisky.

Xander, Christian, Washington, D. C.: Cordials and bitters.

CLASS 62.—*Various beverages.*

American Brewing Company, Rochester, N. Y.: Beers.

Baltz, J. & P., Brewing Company, Philadelphia, Pa.: Pale and dark lagers.

Beadleston & Woerz, New York: Gold Label, German Brew, lager, Culmbacher beers.

Bethesda Mineral Spring Company, Waukesha, Wis.: Mineral waters.

Bolen & Byrne Manufacturing Company, New York: Ciders and beers.

Clarksville Cider Company, St. Louis, Mo.: Cider.

Department of Agriculture, Division of Chemistry, Washington, D. C.: Collective exhibit of ales, beers, ciders, fermented drinks, and mineral waters.

Feigenspan, Christian & Co., Newark, N. J.: India pale ale, etc.

Goebel Brewing Company, Limited, Detroit, Mich.: Beer, porter, and malt extract.

Gund, John, Brewing Company, La Crosse, Wis.: Extra pale and Peerless ale.

Heissler & Junge Company, Chicago, Ill.: Malt extract.

Heurich, Christian, Brewing Company, Washington, D. C.: Maerzen and Senate beers.

Ice and Cold Storage Company, Los Angeles, Cal.: Ginger ale.

Indianapolis Brewing Company, Indianapolis, Ind.: Beers, Duesseldorfer, etc.

Jackson, G. H. T., Napa Soda Springs, Cal.: Natural aerated water.

Lembeck & Betz, Eagle Brewing Company, Jersey City, N. J.: Beers, Bayerisches Hofbrau, American Club, and Extra.

Liebmann's, S., Sons Brewing Company, 36 Forrest street, Brooklyn, N. Y.: Beer in bottles, pale beer, Rheingold, and Wuerzburger beer.

Lincoln Springs, Saratoga Springs, N. Y.: Mineral water.

Long Island Brewing Company, New York: Beers, Black Label, etc.

Quinnipiac Brewing Company, New Haven, Conn.: Beers.

Saegertown Mineral Springs Company, Saegertown, Pa.: Ginger ale, sarsaparilla, birch, lemon sour, and mineral water.

San Francisco Breweries, Limited, San Francisco, Cal.: Export beer.

Schoenhofen, P., Brewing Company, Chicago, Ill.: Beers, Edelweiss, Export, and Schoenhofenbrau.

Seattle Brewing and Malting Company, Seattle, Wash.: Rainier beer.

Vartray Water Company, 33-39 Franklin street, Buffalo, N. Y.: Ginger ale, sarsaparilla, seltzer, soda water, and sparkling water.

White Rock Mineral Springs Company, Waukesha, Wis.: White Rock ozonate mineral spring water.

GROUP XI.—MINING AND METALLURGY.

CLASS 63.—*Working of mines, ore beds, and stone quarries.*

Abbott, A., Ione, Cal.: Sandstone.

Acheson, E. G., Niagara Falls, N. Y.: Carborundum and products as formed by its manufacture.

Acme Mining Company, Robinson Mine, Amador County, Cal.: Gold quartz.

Adams, F., Mesquite Mountain Mine, Kern County, Cal.: Gold quartz (with pyrite).

Adams, J. W., Ormsby County, Nev.: Gypsum.

Afterthought Mining Company, Shasta County, Cal.: Copper ore.

Ajax Mining Company, Ajax Mine, Mammoth, Utah: Copper ore.

Alabama Consolidated Iron and Coal Company, Birmingham, Ala.: Shelby brown ores.

Alabama Mining Company, Alabama Mine, Tuolumne County, Cal.: Gold quartz.

Alberene Stone Company, New York City: Soapstone and slate.

Alexander, L. L., Arsenical Mine, Eldorado County, Cal.: Gold quartz.

Alexander Mining Company, Galena, Kans.: Zinc and lead ore, breccia, sphalerite, and chert.

Allegheny Quarries, Lancaster, Ohio: Sandstone.

Allen, J. P., Eureka Quarry, Placer County, Cal.: Granite.

Alpine Plaster and Cement Company, Acton, Cal.: Gypsum.

Alps Mining Company, Nevadaville, Colo.: Gold and copper ore.

Altoona Coal and Coke Company, Altoona, Pa.: Bituminous coal, coke.

Altoona Quicksilver Mining Company, Altoona Mine, Trinity County, Cal.: Quicksilver ore, cinnabar.

Alvord, J., Alvord Mine, San Bernardino County, Cal.: Gold in calcite.

Amador Mining Company, Amador County, Cal.: Rich gold quartz, telluride, azurite, foot wall, kaolin clay.

Amador Sandstone Company, Amador, Cal.: Sandstone.

American Coal Mining Company, Strawn, Tex.: Bituminous coal.

American Excelsior Consolidated Mining Company, Goodyears Bar Creek, Cal.: Asbestos.

American Institute of Mining Engineers, New York City: Transactions of the American Institute of Mining Engineers.

American Kaolin Company, Chester, Pa.: Kaolin, for manufacture of earthenware, etc.

American Mining Company, Chicago: Iron ores.

American Mining Company, Gilpin County, Colo.: Gold ore.

American and Nettie Mining Company, Ouray, Colo.: Gold ore.

American Steel and Wire Company of New Jersey, New York City: Ores of iron and zinc.

Anaconda Coal Mining Company, Belt, Mont.: Bituminous coal.

Anamosa Quarries, Stone City, Iowa: Limestone.

Andrews, Colonel A., San Francisco, Cal.: Facsimile of dome of pantheon of Paris, made of gold and silver.

Angel Island Stone Company, Angel Island, Cal.: Sandstone.

- Angel's Mining Company, Cooke Mine, Calaveras County, Cal.: Gold quartz.
- Argillo Works, Carbon Cliff, Ill.: Fire clay, for manufacture of fire brick, tiles, etc.
- Arkansas Anthracite Coal Company, Montana, Ark.: Bituminous coal.
- Armstrong, Charles, Ouray, Colo.: Obsidian, occurring with vein material in Bachelor mine.
- Armstrong, D., Silver City, Nev.: Silver ore.
- Armstrong, Hurlbert & Sanders, Ouray, Colo.: Silver lead ore, value \$1,500 per ton.
- Armstrong, Wheeler, Rome, N. Y.: Clay for manufacture of brick, accompanied by bricklet.
- Arroyo Grande Stone Company, Arroyo Grande, Cal.: Granite.
- Ashland Coal, Iron and Railway Company, Ashland, Ky.: Bituminous coal.
- Ashley Falls Marble Company, Ashley Falls, Mass.: Marble.
- Assyrian Gilsonite Company, Salt Lake City, Utah: Gilsonite.
- Atlas Mining Company, Prosperity, Mo.: Zinc and lead ore, sphalerite, galena, greenockite, concentrates, and tailings. Concentrates 60 per cent zinc.
- Auld & Conger, Cleveland, Ohio: Slate from Pennsylvania and Vermont.
- Avonmore Coal and Coke Company, Leechburg, Pa.: Bituminous coal, coke.
- A. Y. and Minnie Mining Company, Leadville, Colo.: Silver lead ore.
- Bacheller, F., Helvetia mine, San Diego County, Cal.: Gold quartz (rich).
- Bachelor Mining and Milling Company, Ouray, Colo.: Silver ore, showing minerals tetrahedrite and stephanite.
- Baggley, John, Two Bit, S. Dak.: Gold ore.
- Bailey, Charles A., Suncook, N. H.: Granite.
- Bailey, J. J., Cripple Creek, Colo.: Galena, showing bunch of native silver.
- Baird, Henry Carey & Co., Philadelphia, Pa.: Publication upon mining, metallurgy, mineralogy, and geology.
- Baker, Charles, Oro Belle mine, near Yuma, Ariz.: Copper ore.
- Baldwin, A. M., Huntington, W. Va.: Potters' clay, for manufacture of earthenware, etc.
- Ballard & Martin, Rawhide mine, Tuolumne County, Cal.: Gold quartz.
- Ballard, Martin & Nevills, Tuolumne County, Cal.: Model of round timbering, one method used in California.
- Bandera Flagstone Company, Redfield, Kans.: Flagstone.
- Bankers' Mining Company, Joplin, Mo.: Lead and zinc ores, galena, and sphalerite.
- Banning Company, Catalina Island, Cal.: Serpentine marble.
- Baptist Mining Company, Aurora, Mo.: Zinc ore, gray calamine.
- Barber Asphalt Paving Company, New York City: Asphaltum and its manufactured products.
- Barker, J. M., Willard, Utah: Iron ore.
- Barnard, E., Carlin, Nev.: Diatomaceous earth.
- Barney Marble Company, Swanton, Vt.: Marble panels and columns for mines and metallurgy façade.
- Barrett, J., Ormsby, Nev.: Copper ore.
- Bashford & Ferguson, Yavapai County, Ariz.: Gold ore.
- Bay State Seam Face Granite Company, Boston, Mass.: Granite.
- Beal, Prof. William, Murp̄ay, N. C.: Asbestos.
- Beard, C., German Light mine, Placerville, Cal.: Gold quartz.
- Beardsley, George F., Tarshish, Cal.: Silver ore.
- Beasley Mining Company, Aurora, Mo.: Zinc ore, calamine.
- Beatty, John, Leete Island, Conn.: Granite.
- Beaver Hill Coal Company, San Francisco, Cal.: Bituminous coal.
- Beck, C. J., Lott mine, Fresno County, Cal.: Bismuthinite.
- Belcher Mining Company, Comstock, Nev.: Sulphurets.

- Belden Mining Company, Gilman, Colo.: Lead, sand carbonates of lead.
- Belding, Milo M., Gouverneur, N. Y.: Marble.
- Bell, T. J., Belmont, Nev.: Lead and silver ore.
- Benton, J., Benton mine, Mono County, Cal.: Auriferous galena.
- Berry, T. L., Santa Barbara, Cal.: Clay.
- Bertha Blake Mining Company, Battle Mountain, Eagle County, Colo.: Gray lead, carbonate sand.
- Bertha Zinc and Mineral Company, Bertha, Va.: Iron and zinc.
- Bertha Zinc Company, Pulaski, Va.: Zinc ore, calamite.
- Berwind, White Coal Company, Philadelphia, Pa.: Coal; collection from the company's mines.
- Bevis Rock Salt Company, Lyons, Kans.: Salt.
- Bickford & Bennett, Hillsboro, Sierra County, N. Mex.: Gold and copper ore.
- Binns, Charles Fergus, Trenton, N. J.: Clays available for economic uses, chiefly ceramic wares, from all parts of the United States.
- Birge, F. E., Yuba River, Cal.: Clay.
- Birney, T. L., Birney mine, Calaveras County, Cal.: Gold quartz.
- Bishop, Joseph, Ambrosia mine, San Benito County, Cal.: Stibnite.
- Bishop, T. F., Blue Lead mine, Butte County, Cal.: Auriferous gravel.
- Bismarck Mining Company, Georgetown, Colo.: Silver and lead ore.
- Bituminous Rock Company, Consolidated, Santa Cruz County, Cal.: Bituminous rock.
- Biwabik Mining Company, Biwabik, Minn.: Iron ore from Biwabik mines.
- Bixby, J. F., Tyson mine, Eldorado County, Cal.: Chromic iron ore.
- Black Metal Mining Company, Black Metal mine, Shasta County, Cal.: Silver ore.
- Black, Smith & Given, Chloride mine, Trinity County, Cal.: Gold quartz.
- Blake, P., Mount Gibbs mine, Mono County, Cal.: Silver ore.
- Blanc, A., Kern County, Cal.: Native antimony; also calcite from Placer County.
- Blanding, Louis, Tuolumne County, Cal.: Gold quartz (rich) from the mines of San Guiseppe and Pine Nut.
- Block, E., Honolulu mine, Big Bug Mining District, Ariz.: Gold, silver, and lead ore.
- Blossom, J. A., Battle Mountain, Nev.: Copper ore.
- Bogart Mining Company, Cripple Creek, Colo.: Gold ore, porphyry and quartz; value, \$20 per ton.
- Bogart, O. H., St. Lawrence mine, Placer County, Cal.: Mariposite.
- Bond, A. L., New Enterprise mine, Boulder County, Colo.: Ores of telluride.
- Bonelli, D., Lincoln County, Nev.: Rock salt.
- Booraem, R. E., New York (Department of Mines, United States Commission to Paris): Publications of the United States upon geology, mineralogy, mines, and metallurgy.
- Booth Brothers & Hurricane Isle Granite Company, New York City: Granite.
- Boston and Aurora Mining Company, Aurora, Mo.: Zinc ores, sphalerite, and crystallized calamine.
- Boston and Colorado Smelting Company, The, Argo, Colo.: Ores treated by these works.
- Boston and Montana Consolidated Copper and Silver Mining Company, Butte, Mont.: Copper and silver ores, mattes, by-products.
- Boston and Nevada Company, Lyon, Nev.: Copper ore.
- Boston Flint Paper Company, Hallowell, Me.: Garnets.
- Boston Little Circle Company, Boston, Mass.: Zinc ore, sphalerite, from 130-foot level.
- Boston Quicksilver Mining Company, Napa County, Cal.: Quicksilver ore, cinnabar.
- Bourne, Charles, Yavapai County, Ariz.: Gold ore.

Bowen, Daniel, Mayer, Ariz.: Onyx.

Boyd, John F., Standard Mine, Mono County, Cal.: Gold quartz.

Braddock Land and Granite Company, Little Rock, Ark.: Granite.

Brainerd, Shaler & Hall Quarry Company, Portland, Conn.: Brownstone.

Brandon Italian Marble Company, Brandon, Vt.: Marble.

Brandywine Granite Company, Wilmington, Del.: Granite.

Braun, W., Lyon County, Nev.: Copper ore.

Braverman, M., Drum Valley, Cal.: Graphite and other minerals.

Brazanovich, M., Esmeralda County, Nev.: Copper ore.

Brazil Block Coal Company, Brazil, Ind.: Bituminous coal.

Briar Block Coal Company, Brazil, Ind.: Clay, for manufacture of brick, accompanied by bricklet.

Brick and Pipe Company, The, Terre Haute, Ind.: Fire clays, for making fire brick, tiles, etc.

Brindle Steer Mining Company, Empire City, Kans.: Zinc ore, sphalerite.

Brown Bear Mining Company, Brown Bear mine, Trinity County, Cal.: Gold quartz.

Brooks, W. H., Anne Arundel County, Md.: Potters' clay, for manufacture of earthenware, etc.

Brown Dake Mining Company, Sterling mine, Hassayampa district, Ariz.: Gold, silver, and lead ore.

Brown, George L., Lockwood mine, Calaveras County, Cal.: Gold quartz.

Brown, E., San Luis Obispo County, Cal.: Clay.

Brown, James B., Duncan mine, Mariposa County, Cal.: Gold quartz, clay.

Brown T., Ventura, Cal.: Soapstone.

Brownville Maine Slate Company, Worcester, Me.: Slate.

Bullion, Beck & Champion Company, Bullion Beck mine, Eureka, Utah: Silver lead ore and hard carbonates of lead.

Bullion Mining Company, Bullion mine, Tulare County, Cal.: Gold quartz, copper ore from Plumas County.

Bullock, M. C., Manufacturing Company, Chicago: Diamond pointed prospecting core drills, diamond bits, cores, and boring tools.

Bunko Mining Company, Cave Spring, Mo.: Zinc ore, sphalerite, and chert.

Burke, J., Washoe County, Nev.: Mercury ore, cinnabar.

Burns Mining Company, Cripple Creek, Colo.: Gold ore, phonolite with fluorite and quartz.

Burrage, A. C., Santa Rita, N. Mex.: Cuprite crystals in talc.

Button, W., Golconda, Nev.: Copper ore.

Cagaloo Mining Company, Cagaloo mine, Riverside County, Cal.: Tin from furnace.

Calaveras Consolidated Mining Company, Santa Cruz mine, Calaveras County, Cal.: Azurite.

Calaveras Marble Company, Cave City, Cal.: Marble.

Caledonia Mining Company, Caledonia mine, Fresno County, Cal.: Gold quartz.

California Marble and Building Stone Company, Colton, Cal.: Aragonite.

California commission to Paris Exposition, San Francisco, Cal.: Collective exhibit of ores and minerals. Contributors:

Adams, W. J., jr., Felix mine, Azuzo, Los Angeles County—Fluorite.

Aldrich, H. A., Glenbrook, Lake County—Iron ore.

Amargosa Mining Company, Clarks Fork, Inyo County—Gypsum crystal.

Arents, A., Fresno mine, Fresno County—Magnetite and limonite.

Auburn, Bank of, Auburn, Placer County—Marble.

Bartlett, W. P., Livermore, Alameda County—Hydromagnesite.

Bartlett, W. T., Snowflake mine, Napa County—Magnesite.

Bonanzo Mining Company, Tuolumne County—Slate.

Brian, J. W., San Jacinto quarry, San Diego County—Limestone.

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

- Burke, Morris, Half Dollar mine, San Diego County—Lepidolite.
- Bush, Mrs. A. E., Fresno County—Andalusite and selenite.
- Cactus Mining Company, Cactus mine, Inyo County—Calcites.
- Cain, J., Santa Rosa Island, Santa Barbara County—Gypsum crystal.
- California Paris Exposition commission—Mineral oils from different mines.
- Calistoga Mining Company, Napa County—Clay.
- Carbondale Mining Company, Amador County—Clay.
- Cerro Gordo County, Ygnacio mine, Inyo County—Caledonite.
- Chalmers, Lewis, Alpine County—Enargite.
- Choynski, T. N., Folsom, Sacramento County—Quartz.
- Clark, L., Copper World mine, San Bernardino County—Chrysocolla.
- Coleman, W. T., Death Valley, San Bernardino County—Pandermite.
- Copeland, W. J., Mount Shasta mine, Shasta County—Quartz crystals.
- Copperopolis Mining Company, Calaveras County—Cuprite and malachite.
- Coso Lime Company, Coso mine, Inyo County—Calcites.
- Croissant, A. T., Lincoln, Placer County—Clay.
- Davis & Cowell, Davis quarry, Santa Cruz County—Limestone.
- Diadem Mining Company, Plumas County—Gold quartz.
- Dickenson, T., Eureka mine, Humboldt County—Graphite.
- Donnelly, J. W., Eber Flat, Tulare County—Epidote.
- Douglas, J., Douglasville, Tuolumne County—Chalcedony.
- Drew, W. F., Alta mine, Placer County—Cobaltite.
- Dyer, George, Red Hill mine, Mariposa County—Malachite, bornite.
- Ellis, J., Ellis ranch, Santa Clara County—Limestone.
- English, George L., Reed ranch, Marion County—Lawsonite.
- Fair, James G., Morgan mine, Calaveras County—Aragonite.
- Field, J. D., Limestone quarry, Tulare County—Limestone.
- Finell, H. T., Willots, Mendocino County—Glaucophane.
- Franconia, L., San Diego mine, San Diego County—Chalcocite.
- Frazer Bros., Riverside quarry, Riverside County—Cement rock.
- Frost, L. L., Hayden, Lassen County—Mesolite.
- Gale, Mrs. S. A., Argus Mountain, Inyo County—Calcite.
- Glenbrook Mining Company, Lake County—Micaceous hematite.
- Goff, H. S., Arch Beach, Orange County—Fuchsite.
- Goodrich, C. F., Del Norte County—Magnetite and limonite.
- Grant Mining Company, Grant Gypsum mine, Orange County—Dolomite.
- Grower, H., Big Pine, Inyo County—Bismutite.
- Goucher, J., Berkeley, Alameda County—Vivianite.
- Hazard, George W., Los Angeles quarry, Los Angeles County—Limestone.
- Hearn, Dr. F. G., Yreka, Siskiyou County—Arenaceous limestone.
- Heffernan, H. K., Carga Muchacha, San Diego County—Cyanite.
- Hendrickson, A., Hendrickson quarry, Kern County—Limestone.
- Heslewood, J. A., Tehama, Tehama County—Pectolite.
- Hidalgo Mining Company, Inyo County—Argentiferous galena.
- Hill, A., Hill's quarry, Monterey County—Limestone.
- Hill, M., Mammoth mine, Mono County—Barite.
- Hills, H. S., Vanderbilt, San Bernardino County—Feldspar.
- Hirsh, D., Hirsh mine, Inyo County—Silver ore.
- Hixon, J. W., Bullion mine, San Diego County—Chrysocolla and azurite.
- Holmes, H. T., Company, Lynn's quarry, San Bernardino County—Limestone.
- Hooper, Edward, Reynolds mine, Fresno County—Tantalite and columbite.
- Hughes, D. F., South Fork mine, Placer County—Calcites.
- Hughes, H., Deer Creek, Tulare County—Moss agate.

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

Hullford, E. W., Placerville, Eldorado County—Quartz crystals, pyrite.

Ibex Mining Company, Inyo County—Silver ore.

Ireland, W. J., Murphy's cave, Calaveras County—Stalactites.

I. X. L. Mining Company, Alpine County—Silver ore.

Jerney, J. M., Green Mountain mine, Fresno County—Molybdenite.

Jacoby, H., Jacoby Creek, Humboldt County—Limestone.

Jolon Mining Company, Monterey County—Clay.

Jones, D., Mount Raymond, Fresno County—Limestone.

Kahn, Charles, Cadmus mine, Nevada County—Gold quartz.

Katz, M. D., Akar's quarry, San Bernardino County—Limestone.

Keeney, G. D., Soledad Canyon, Los Angeles County—Zeolite.

Kelsey, P. F., Kelsey mine, Los Angeles County—Erythrite.

Kennedy Mining Company, Kennedy mine, Amador County—Foot wall, 1,250 to 1,600 foot level.

Keystone Mining Company, Keystone mine, Amador County—Foot wall.

Kimble, George W., Colomo mine, Eldorado County—Magnetite, limonite.

King, M., Yolo mine, Yolo County—Limonite.

Knight, George, Pit River, Modoc County—Calcite.

Knox, R. F., Manhattan quicksilver mine, Napa County—Chalcedony.

Marble Lime Kiln Company, Swartout Canyon, San Bernardino County—Limestone.

Mason, W. B., Crescent City Beach, Del Norte County—Beach pebbles.

Mason, W. Q., Bald Point, Calaveras County—Almandite (garnet).

Mathyas, B., Buckmountain Creek, Humboldt County—Lignite.

Maxwell, J., Turquoise mine, San Bernardino County—Turquoise, cuproscheelite.

Maxwell, James M., New Idria mine, Fresno County—Cinnabar.

Mayer, H. H., Lake mine, Lake County—Hyalite.

McGowan, F., Eureka, Humboldt County—Rutile (in granite).

McMillan, F., Shasta County—Limonite, melanterite.

Mendenhall, A., Mendenhall mine, Alameda County—Chromic iron ore.

Mercer, W. J., Mercer's cave, Murphy, Calaveras County—Stalactite.

Merriman, Dr. A. F., Big Lagoon beach, Humboldt County—Beach pebbles.

Moore, N., Moore's ranch, Santa Barbara County—Limestone.

Mount Shasta Mining Company, Mount Shasta—Gold quartz, \$300 per ton.

Nellis, J. W., Mount Diablo, Contra Costa County—Barite.

Nelson, J., Nelson Creek, Monterey County—Jasper (variegated).

Nichols, George, Calaveras cave, Calaveras County—Stalactite.

Ogden, A., Union mine, Calaveras County—Chalcopyrite, from 500-foot level.

O'Gorman, J. T., Callaghan's ranch, Siskiyou County—Barite.

Parker, D. W. C., Modoc mine, Inyo County—Anglesite.

Payne, P., St. Helena, Napa County, Cal.—Chrysolite (in serpentine).

Perry, Mrs. J. W. S., Calico—Celestite, thenardite.

Pope, O. C., Chico mine, Placer County—Millerite.

Porrie, M., Porrie's quarry, Kern County—Limestone.

Powers, H., Mayflower mine, Nevada County—Molybdenite.

Pritchard, J. A., Wyoming mine, Inyo County—Quartz crystal.

Randol, J. B., New Almaden mine, Santa Clara County—Calcite.

Redfern, J. M., Barstow, San Bernardino County—Pyrolusite (calcite).

Rich Gulch Mining Company, Plumas County—Gold quartz (rich).

Rockland Lime Quarry Company, Monterey County—Limestone, calcites.

Root, William C., Mountain Meadow, Tuolumne County—Copper ore.

Sanders, Edward, Delta, Shasta County—Molybdenite in granite.

San Francisco Mining Company, Mariposa County—Gold quartz (with pyrite).

Santa Barbara Mining Company, Santa Barbara County—Ocher (burnt).

California commission to Paris Exposition, San Francisco, Cal., etc.—Continued.

Satellite Mining Company, Inyo County—Copper ore.

Sam, Sam, Stuckslager mine, Eldorado County—Roscoelite.

Sheldon, E. F., Jamestown, Tuolumne County—Albite.

Sheppard, L., Sheppard's canyon, Inyo County—Iron ore.

Shimmin, E. R., Willets, Mendocino County—Garnets.

Sickler, H. O., Julian quarry, San Diego County—Limestone.

Silver, Lowry, Copper World mine, San Bernardino County—Chrysocolla.

Smith, A., Three River quarry, Tulare County—Limestone.

Smith, B. W., Specimen mine, Kern County—Calcites.

Smith, E., Carpenter's ranch, San Luis Obispo County—Limestone.

Smith, O. A., San Bernardino County—Calcites (Iceland spar, pyrite).

Sprague, George E., Mount Hoffman, Mariposa County—Epidote.

Stewart, Charles, Tehachapi Summit, Kern County—Semi opal.

Stone, G. F., Forest Hill Divide, Placer County—Serpentine.

Suhren, George H., Suisun, Solano County—Agate.

Thayer, B. B., Guadalupe quicksilver mine, Santa Clara County—Dolomite.

Theisen, John, Consumers' mine, Eldorado County—Rubescite.

Thomas, W. P., Thomas mine, Mendocino County—Lignite.

Thorn, J. N., Lost mine, San Diego County—Copper ore.

Tregidgo, Al., Hudson Bay mine, Nevada County—Gold quartz (rich).

Tres Pinos Lime Company, San Benito County—Limestone, magnetite.

Turnbow, F. H., Stuckslager mine, Eldorado County—Roscoelite.

Turner, O., Turner's quarry, San Diego County—Limestone.

Union Mining Company, Calaveras County—Chalcopyrite.

Ward, W. E., Enterprise mine, Plumas County—Chalcocite.

Williams, J., Kennet quarry, Shasta County—Limestone.

Woodworth, J. W., Rose mine, San Bernardino County—Hematite (auriferous).

Yates, L. G., Santa Barbara County—Pectolite.

California Paris Commission, San Francisco, Cal.: Models, gold quartz mill, mine timbering, underground mining, hydraulic sluicing, nuggets, and dust.

California Quicksilver Mining Company, Yolo County, Cal.: Quicksilver ore.

California State Mining Bureau, San Francisco, Cal.: Reports and colored charts on mineral production of the State.

Calliope Mining and Milling Company, Ouray, Colo.: Silver lead ore.

Calumet and Contact Company, Contact, Nev.: Copper matte.

Calumet and Hecla Company, Calumet, Mich.: Native copper, copper ores.

Campbell, C. P., Boomerang mine, San Bernardino County, Cal.: Gold quartz.

Campbell, L. H., Gaffney, S. C.: Monazite sand.

Campion, John F., Leadville, Colo.: Native gold, crystallized, and leaf, from Breckenridge and Leadville collection; valued at \$35,000.

Capital City Brick Company, Topeka, Kans.: Shale, for manufacture of paving and vitrified brick.

Carborundum Company, Niagara Falls, N. Y.: Carborundum crystals.

Carpenter & Brother, Kings Mountain, N. C.: Tin ore.

Carpenter, A. V., Contact, Nev.: Copper ore.

Carpenter, Coles A., Sea Cliff, N. Y.: Stoneware clay, for the manufacture of stoneware, etc.

Carrara Marble Company, Carrara Marble Quarry, Amador County, Cal.: Marble.

Carthage Marble and White Lime Company, St. Louis, Mo.: Limestone.

Casarallo, J., Garibaldi mine, Mono County, Cal.: Argentiferous galena.

Cashin, William J., Cashin, Colo.: Copper ore.

Castrer, Curran & Bullitt, Philadelphia, Pa.: Coal collection of the Pocahontas mines, western Virginia.

- Cayuga Pressed Brick Company, Cayuga, Ind.: Clay for making brick, accompanied by bricklet.
- Centennial Eureka Mining Company, Eureka, Utah: Gold, silver, and copper, with rare arsenical minerals associated.
- Centerville Block Coal Company, Centerville, Iowa: Bituminous coal.
- Central Coal and Coke Company, Kansas City, Mo.: Bituminous coal, coke.
- Central Jellico Coal Company, Pleasant View, Ky.: Bituminous coal.
- Central Lead Company, Flat River, Mo.: Lead ore, galena.
- Central Phosphate Company, Beaufort, S. C.: Phosphate rock.
- Central Railroad of New Jersey, New York City: Anthracite coal.
- Cerrillos Coal and Railroad Company, Cerrillos, N. Mex.: Bituminous coal.
- Cerro Gordo Company, Ygnacio mine, Inyo County, Cal.: Linarite.
- Chadbourne & Long, Old mines, Washington County, Mo.: Lead ore, galena, and barytes.
- Chainman Mining Company, White Pine County, Nev.: Gold ore.
- Chapman Coal Company, Jackson, Ohio: Bituminous coal.
- Champion Company, Iron Beacon, Mich.: Iron ore, weighing 1,600 pounds.
- Chapel Hill Mining Company, Cherokee County, N. C.: Iron ore.
- Chapin, W. C., Furnace Creek, Cal.; Ulexite and gypsum.
- Chase, Capt. George W., Rush, Ark.: Zinc ore, sphalerite with smithsonite.
- Chatelle, W. B., Galena, Kans.: Zinc ore, crystallized sphalerite.
- Chauvin, A. T., Chauvin, Cal.: Gold quartz.
- Cherokee and Pittsburg Coal Company, Pittsburg, Kans.: Bituminous coal.
- Cherry Valley Iron Company, Leetonia, Ohio: Bituminous coal.
- Chestatee Pyrites Company, Lumpkin County, Ga.: Iron pyrite.
- Chiatovich, J., Tule Canyon, Nev.: Silver lead, horn silver, and iron ore.
- Chiatowitch, John, Beveridge mine, Inyo County, Cal.: Gold quartz.
- Chicago University, Chicago: Collection of minerals included in Group III of Dana's classification, collected by J. P. Iddings.
- Chicago, Wilmington and Vermilion Coal Company, Braidwood, Ill.: Bituminous coal.
- Chickamauga Coal and Coke Company, Chickamauga, Ga.: Bituminous coal, coke.
- Chisler, G., Jumbo, Nev.: Gold and silver.
- Choctaw, Oklahoma and Gulf Railway Company, Hartshorn, Ind. T.: Bituminous coal.
- Christy Fire Clay Company, The, St. Louis, Mo.: Fire clay, for manufacture of fire brick, tiles, etc.
- Cincinnati Belle Mining Company, Cincinnati Belle mine, San Diego County, Cal.: Gold quartz (rich).
- Cinnabar King Mining Company, Healdsburg, Sonoma County, Cal.: Mercury ore, cinnabar.
- City Improvement Company, San Francisco, Cal.: Bituminous rock and asphaltum.
- Clarke, F. G., Blue Stone Company, Oxford, N. Y.: Bluestone.
- Clark, N., & Son, Carbondale mine, Amador County, Cal.: Clay (fire).
- Clark, W. A., Gallup, N. Mex.: Bituminous coal.
- Clerk de Landresse, H., Yosemite Queen mine, Fresno County, Cal.: Silver ore.
- Cleveland Cliffs Mining Company, Ishpeming, Mich.: Iron ore from Cleveland Cliffs mine.
- Cleveland Mining Company, Cleveland mine, San Diego County, Cal.: Gold quartz.
- Cleveland Stone Company, Cleveland, Ohio: Sandstone.
- Clinton Mining and Milling Company, Crisman, Colo.: Gold ore, with the association of roscoelite.
- Clippert & Spaulding, Lansing, Mich.: Clay, for manufacture of brick, accompanied by bricklet.

- Coal Bluff Mining Company, Terre Haute, Ind.: Bituminous coal.
- Coal Creek Coal Company, Knoxville, Tenn.: Bituminous coal.
- Coal Ridge Coal and Coke Company, Pomeroy, Ohio: Bituminous coal, coke.
- Cock Robin Mining Company, Joplin, Mo.: Zinc and lead ore, sphalerite, and galena.
- Colcord, R. K., Vivian mine, Nev.: Gold and silver ore.
- Collins, R. M., Lewis, Cal.: Soapstone (fire brick).
- Colman, N. J., Hilton Mine, Mariposa County, Cal.: Gold quartz from 900-foot level.
- Colorado Central Mining Company, Georgetown, Colo.: Silver and lead ore.
- Colorado College, Colorado Springs, Colo.: Minerals in the sulphide, selenide, telluride, arsenide, and antimonide group, by R. M. Bagg, jr.
- Colorado Fuel and Iron Company, Denver, Colo.: Coal, coke; representing 30 iron and coal mines and coking plants operated in Wyoming, Colorado, and New Mexico.
- Colorado Scientific Society, Denver, Colo.: Free gold ore from the Smuggler Union Mine, Telluride, Colo.: valued at \$600. Value per ton, \$86,000.
- Columbia Marble Quarry Company, Columbia Marble Quarries, Tuolumne County, Cal.: Marble.
- Columbia Mining Company, Marion, Ky.: Lead ore, galena, and fluor spar.
- Columbian Marble Quarrying Company, Rutland, Vt.: Square column of La Joya marble in façade.
- Columbian Mining Company, Silverton, Colo.: Silver copper ore.
- Columbus and Hocking Coal and Iron Company, Columbus, Ohio: Bituminous coal.
- Comet Coal Company, Dayton, Ohio: Bituminous coal.
- Commodore Mining Company, Creede, Colo.: Silver ore.
- Commonwealth Mining and Milling Company, Pearce, Ariz.: Gold and silver ore, with free gold and cerargyrite.
- Compere, C. V., Washington Mine, Calaveras County, Cal.: Gold quartz.
- Concrete Gold Mining Company, Gilpin County, Colo.: Gold and silver ore.
- Cone, H., Blackman Mine, Nevada County, Cal.: Gold quartz.
- Congress Gold Company, Congress Mine, Congress, Ariz.: Gold ore.
- Conn, Fred., Saline Valley, Cal.: Tincal (native borax).
- Conrad Hill Mining Company, Davidson County, N. C.: Copper ore.
- Conroy, B., Redding, Cal.: Limonite (botryoidal).
- Consolidated Bituminous Rock Company, Santa Cruz County, Cal.: Bituminous rock.
- Consolidated Coal Company, Baltimore, Md.: Bituminous coal.
- Consolidated Coal Company, St. Louis, Mo.: Bituminous coal.
- Consolidated Stanley Mining Company, Idaho Springs, Colo.: Gold, silver, and copper ore.
- Consolidated Virginia Mining Company, Virginia City, Nev.: Sulphurets.
- Continental Coal Company, Mayersdale, Pa.: Bituminous coal.
- Contracting Company, Clear Creek Station, Cal.: Sandstone.
- Cook, S. E., Buffalo City, Ark.: Zinc blende with smithsonite, dolomite, and magnesian limestone, from Alberta Mine, Marion County.
- Cook Mining and Milling Company, Central City, Colo.: Gold ore.
- Cooper Hollow Mining Company, Galena, Kans.: Zinc ore, breccia of sphalerite and chert.
- Copperopolis Mine, Castle Creek, Ariz.: Gold and copper ore.
- Copper Queen Consolidated Mining Company, Bisbee, Ariz.; Copper ores, showing malachite, azurite, cuprite, and chrysocolla.
- Copper Union Creek Company, Copper Union Creek, California: Copper ore.
- Cornell University, Ithaca, N. Y.: Minerals of Groups III, IV, VII, and VIII, Dana's Classification, collected by A. C. Gill.
- Cornelly, J. B., Tombstone Mine, Inyo County, Cal.: Gold quartz.
- Cornetti, G. B., Tombstone Mine, Inyo County, Cal.: Gold quartz.
- Cornwall Mining Company, Galena, Kans.: Lead-ore cerussite.

- Corona Coal and Coke Company, Corona, Ala.: Bituminous coal, coke.
- Corrigan, McKinney & Co., Cleveland, Ohio: Iron ores.
- Cowles, Calvin J., Wilkesboro, N. C.: Potter's clay, for manufacture of earthenware, etc.
- Craig, John J., Company, Knoxville, Tenn.: Marble.
- Crowell, J. P., Alta Antimony Mine, San Benito County, Cal.: Stibnite.
- Crown King Mining Company, Yavapai County, Ariz.: Gold ore.
- Cruikshank, A. B., Mary Ellen Mine, Tuolumne County, Cal.: Gold quartz.
- Crown Point Mining Company, Comstock, Nev.: Sulphurets.
- Cumnock Mining Company, Cumnock, N. C.: Bituminous coal.
- Curtis, J. G., Pentz, Cal.: Chronic iron ore, limestone.
- Curtis, S. W., Sonoma, Cal.: Clay.
- Cutter, W. H., Woodbridge, N. J.: Potter's clay, for manufacture of earthenware, etc.
- Daggett, A., San Bernardino County, Cal.: Silver ore, chalcopyrite, calamine, and smithsonite.
- Daggett, J., Juniper Mine, Lassen County, Cal.: Gold quartz (with free gold).
- Damon Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, flucrite, and quartz.
- Danche, J., Boss, Nev.: Lead and silver ore.
- Danville Brick and Tile Company, Danville, Ill.: Clay for making brick, accompanied by bricklet.
- Daunet, J., Death Valley, Cal.: Borate of lime.
- Davison & Kennedy, Lottie Mine, Inyo County, Cal.: Cervantite (oxide antimony).
- Davidson, G. A., Utica Mine, Ward, Colo.: Chalcopyrite and bornite, carrying gold.
- Davis, J. Z., Sacramento, Cal.: Collection of minerals.
- Day, Dr. David T., Washington, D. C.: Transparencies showing scenes in mining regions.
- Deaken & Taylor, Old Spanish Mine, Shasta County, Cal.: Gold quartz, \$75 per ton.
- Deaken, F., Evening Star Mine, Shasta County, Cal.: Gold quartz, \$800 per ton.
- De Corse, S., Marble Canyon Mine, near Yuma, Ariz.: Marble.
- Deep Creek Mining Company, Lander County, Nev.: Antimony.
- De Goha, J. W., Grass Valley, Cal.: Clay.
- Deidesheimer, P., Young America Mine, Sierra County, Cal.: Gold quartz.
- Deitrick, T. M., Lorraine, Va.: Potter's clay for manufacture of earthenware, etc.
- De la Mar's Mining Company, Mercur, Utah: Exhibit of the methods of working gold ores.
- Delano Mining Company, Delano Mine, Tulare County, Cal.: Silver ore.
- Delaware and Hudson Company, New York: Anthracite coal.
- Delaware and Lackawanna Railroad Company, New York: Anthracite coal.
- Dennemora Mining Company, Browns Summit, N. C.: Iron ore.
- Denver Marble and Onyx Company, Denver, Colo.: Marble.
- Dern, John, Mercur, Utah: Gold ore, showing cinnabar.
- Derby, C. C., Mirabel Mine, Lake County, Cal.: Cinnabar, stibnite from San Benito County, and epsomite from Santa Clara County.
- Deseret Museum, The, Salt Lake City, Utah: Selenite crystals.
- Detroit and Deadwood Company, Deadwood, S. Dak.: Native copper.
- Detroit Copper Mining Company, Morenci, Ariz.: Copper ores, cuprite, chalcotrichite, arborescent and bright native copper, azurite.
- Detroit Mining Company, Joplin, Mo.: Zinc ore, sphalerite from "soft ground."
- Devine, J. E., Volcano Wells Mine, near Yuma, Ariz.: Alum.
- Devling, Charles, Boulder, Colo.: Silver ore.
- Dewdrop Mining and Milling Company, Ni Wot Mine, Ward, Colo.: Gold ore, iron and copper ore.

- Dew Drop Mining Company, Oronogo, Mo.: Zinc ore, breccia of sphalerite, chert, and limestone.
- Diekey, W. S., Manufacturing Company, Deepwater, Mo.: Fire clays for making fire brick, tiles, etc.
- Dickinson Fire Brick Works, Dickinson, N. Dak.: Fire clays for making fire brick, tiles, etc.
- Dier, George, Draper Mine, Tuolumne County, Cal.: Gold quartz.
- Dixie Mining and Smelting Company, Dixie Mine, St. George, Utah: Copper and iron ores.
- Doe Run Mining Company, Flat River, Mo.: Lead ores, galena, diamond drill cores showing structure of the deposit.
- Dooley, W. P., Lincoln County, Nev.: Copper ore.
- Doolittle, J., Providence Mine, Tuolumne County, Cal.: Gold quartz with pyrite.
- Doran, A. J., Accidental Mine, Ariz.: Gold, silver, and lead ore.
- Dorick Mining Company, Georgetown, Colo.: Gold and lead ore.
- Dorset Mountain Marble Company, Rutland, Vt.: Marble.
- Douglass, W., Silver Star Mine, Nev.: Gold ore.
- Drake Company, St. Paul, Minn.: Petrified wood found near Holbrook, Ariz., cut for ornamental purposes, table tops; granite, quartzite.
- Dresser, S. R., Bradford, Pa.: Packers for oil and gas wells; couplings for threadless pipe; insulation to prevent electrolysis of pipes; clamps for stopping leaks at couplings.
- Ducktown Mining Company, Ducktown, Tenn.: Copper ore.
- Dunlap Mining Company, Flat Creek, Washington County, Mo.: Lead ore, galena.
- Dunn, L. F., Humboldt County, Nev.: Silver ore.
- Durkee, J. H., Coal Company, Weir, Kans.: Bituminous coal.
- Dutton, A. J., Ouray, Colo.: Gold, silver, and copper ore, showing the mineral tetrahedrite.
- Dwight Mining Company, Galena, Kans.: Zinc ore, sphalerite on chert.
- Dwight, Prof. William B., Vassar College, Poughkeepsie, N. Y.: Petrotome in operation.
- Eads, Mixter & Heald Zinc Company, Mossy Creek, Tenn.: Zinc ore, sphalerite, smithsonite, calamine.
- Eagle Mining Company, Loudoun County, Va.: Iron ore.
- Eagle Mining Company, Salem, Ky.: Lead and zinc ores, galena, sphalerite, and fluorite.
- Edgar, C. S., Metuchen, N. J.: Ball clay, accompanied by example in bricklet form.
- Edwards, A. W., Mark Twain mine, Lynx Creek, Ariz.: Gold and silver ore.
- Edwards, M. A., Campo Seco, Cal.: Granite.
- Eggers & Co., Eagle mine, Nevada: Gold ore.
- Eggers & Hunter, New Orleans mine, Nevada: Copper ore.
- Eicher, J. C., Morning Star mine, Butte County, Cal.: Barite with gold and silver.
- Ekman, A., Butte County, Cal.: Gypsum, calcite with sulphides.
- Eleventh Hour Mining Company, Prosperity, Mo.: Zinc ore, sphalerite.
- Elkton Mining Company, Cripplecreek, Colo.: Collection of gold ore and accompanying minerals.
- Elsinore Coal and Clay Company, Elsinore, Cal.: Bituminous coal.
- Empire Iron and Steel Company, New York City: Iron ore from New Jersey and Virginia mines.
- Empire Mining Company, Empire mine, Nevada County, Cal.: Gold quartz, from 1,500-foot level.
- Empire Mining Company, Lynx Creek, Ariz.: Gold, silver, and copper ore.
- Empire State Mining and Milling Company, Wardner, Idaho: Set of concentrates.
- Engels, H. A., Engels's mine, Plumas County, Cal.: Copper, malachite, chrysocolla, cuprite, chalcopyrite.

- English, R. W., Lumber Company, English, Colo.: Lime rock of good quality.
- Ensign, O. A., Hoodlum mine, Castle Creek, Ariz.: Copper ore.
- Enterprise Mining Company, Rico, Colo.: Gold and silver ore.
- Erie Railroad Company, New York City: Anthracite coal.
- Esperanza Mining Company, Esperanza mine, Calaveras County, Cal.: Azurite.
- Etta Mining Company, Etta, Ariz.: Gold-quartz ore.
- Etta Mining Company, Keystone, S. Dak.: Spodumene, for manufacture of porcelain and medicines.
- Eureka Consolidated Mining Company, Eureka, Nev.: Lead and silver ore.
- Eureka Hill Mining Company, Tintic district, Utah: Gold, silver, and copper ore, conichalcite and enargite.
- Eureka Mining Company, Eureka mine, Plumas County, Cal.: Gold quartz (sulphides of iron and lead).
- Eureka Slate Company, Eureka slate mine, El Dorado County, Cal.: Slate.
- Evans, L., Pardee mine, Lake County, Cal.: Chromic iron ore.
- Evans Marble Company, Baltimore, Md.: Marble from Tennessee.
- Ewing, Thomas, San Bernardino County, Cal.: Silver ore from Bonanza King and Bell McGillivray mines.
- Excelsior Brownstone Company, Ashland, Wis.: Sandstone.
- Excelsior Fire Brick Company, Ottawa, Ill.: Clay for making brick, accompanied by bricklet.
- Excelsior Slate Company, Delta, Pa.: Slate.
- Exploration Syndicate, The, New York City: Bituminous coal.
- Fairhaven Marble and Marbleized Slate Company, Fairhaven, Vt.: Slate.
- Fairhurst, G. W., Magnolia, Colo.: Gold ore, showing cleavage face of tellurium.
- Fairmont Coal and Iron Company, New Bethlehem, Pa.: Bituminous coal.
- Fairmount Consolidated Mining Company, Garfield, Nev.: Black metal.
- Fall Brook Coal Company, Corning, N. Y.: Bituminous coal.
- Falling Rock Cannel Coal Company, New York City: Bituminous coal.
- Faxon, John T., Sonora, Cal.: Soapstone.
- Ferguson Mining Company, York County, S. C.: Gold ore.
- Field Columbian Museum, Chicago: Crystals of the United States, illustrating crystallography.
- First National Kansas Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Fish, A., Gold Wreath mine, Inyo County, Cal.: Gold quartz.
- Fisk Mining and Milling Company, Blackhawk, Gilpin County, Colo.: Gold, silver, and copper ore.
- Fitch, A. B., Graphite Mine and Smelting Works, Magdalena, N. Mex.: Carbonate sands containing lead and silver.
- Flemington Coal and Coke Company, Flemington, W. Va.: Bituminous coal, coke.
- Florentine Marble Company, Beldens, Vt.: Marble.
- Fluorspar Company, The, St. Louis, Mo.: Fluorspar.
- Flynt, W. N., Granite Company, Monson, Mass.: Granite.
- Foley, James, Allisonia, Va.: Zinc and lead ore, steel blende, smithsonite, galena, and cerusite.
- Foote Mineral Company, 1317 Arch street, Philadelphia, Pa.: Collective exhibit of minerals occurring in the United States.
- Forney Mining Company, North Carolina: Iron ore.
- Fort Madison and Appanoose Stone Company, Fort Madison, Iowa: Dolomite.
- Fossich, F. L., Company, Sheffield, Ala.: Limestone.
- Foster, W. E., Blazing Star mines, Calaveras County, Cal.: Gold quartz.
- Francis Mining Company, Francis mine, San Bernardino County, Cal.: Gold quartz.
- Frank, J. W., Red Cap mine, Humboldt County, Cal.: Native copper.

- Franklin, Nelson, Wood mine, Central City, Colo.: Uranium ore, pitch blende.
- Free Coinage Mining Company, Cripplecreek, Colo.: Gold ore, porphyry and quartz, basalt, fluorite.
- Freedley, J. K., & Sons, Philadelphia, Pa.: Marble.
- Freeland Mining Company, Idaho Springs, Colo.: Gold, silver, copper, and lead ore.
- Freeport Granite Quarries, Freeport, Me.: Granite.
- Fremont Marble Company, Hartford, Conn.: Marble.
- French, J. W., Washington mine, Shasta County, Cal.: Gold quartz (telluride).
- French, T. J., Blue Jacket mine, Seven Devils Mountains, Idaho: Copper ore.
- Fresno Enterprise Company, Enterprise mine, Fresno County, Cal.: Gold quartz.
- Fricke, John H., Hillsboro, Sierra County, N. Mex.: Pyritic iron and zinc ore.
- Frick, H. C., Coke Company, Pittsburg, Pa.: Maps and charts, diagrams, and photographs of equipment. Coke collection.
- Friedigh, J. H., Hillsboro, Sierra County, N. Mex.: Gold ore.
- Frost, J. S., Kentucky mine, Mono County, Cal.: Chloride of silver.
- Fuller, L. H., Chicago: Lead ore, galena, from Dodgeville, Wis.
- Fultonham Brick Company, Fultonham, Ohio: Shale, for manufacture of paving and vitrified brick.
- Galena Queen Mining Company, Silverton, Colo.: Silver and lead ore.
- Gallup, H. H., Buffalo City, Ark.: Zinc ore blende from Lion Hill mines, Marion County, Ark.
- Gambetta Mining Company, Gambetta mine, San Bernardino County, Cal.: Silver ore.
- Gambetter Mining Company, Gambetter, Cal.: Gold quartz.
- Gardner, Dr., Bedford, Ind.: Kaolin, for manufacture of earthenware, etc.
- Gardner, J. T., Wren, Ariz.: Gold quartz.
- Garrison, J. F., New Year mine, Deep Creek, Utah: Copper ore.
- Gauley Mountain Coal Company, Amsted, W. Va.: Bituminous coal.
- Geddes & Seerie Stone Company, Denver, Colo.: Granite.
- Gee Whillekins Mining Company, Granby, Mo.: Zinc and lead ore, calamine and galena.
- Gehrmann, Charles, Stanley mine, Idaho Springs, Colo.: Gold, silver, and copper ore, showing bornite and chalcopyrite.
- Genesee Salt Company, Piffard, N. Y.: Salt.
- Genesee Valley Mining Company, Plumas County, Cal.: Copper ore.
- Genesee-Vanderbilt Mining Company, Guston, Colo.: Ore from Yankee Girl mine.
- Geological survey, Illinois State, Springfield, Ill.: Reports on geology of Illinois.
- Geological survey, Indiana State: Reports, etc., on geology of Indiana.
- Geological survey, Iowa State, Des Moines, Iowa: Geological photographs and measurements. Reports.
- Geological survey, Kansas State, Lawrence, Kans.: Reports upon geology, mining, metallurgy, and mineralogy.
- Geological survey, Kentucky State, Lexington, Ky.: Reports upon geology, mining metallurgy, and mineralogy.
- Geological survey, Maryland State: Geological reports, etc.
- Geological survey, Michigan State, Lansing, Mich.: Reports on geology, mining, metallurgy, and mineralogy.
- Geological survey, New Jersey: Reports and maps of geological formations.
- Geological survey, New York State, F. J. H. Merrill, director: Reports on salt, gypsum, clay, road materials, and mineral resources.
- Geological survey, North Carolina State, Chapel Hill, N. C.: Reports on geology, mining, metallurgy, and mineralogy.
- Geological Survey, U. S. A., Washington, D. C.: Reports on geology, mining, metallurgy, and mineralogy; educational series of rocks.

- Geological survey, West Virginia, Morgantown, W. Va.: Reports on geology, mining, metallurgy, and mineralogy.
- George, D. S. G., Tulare County, Cal.: Semiopal soapstone.
- Georgia Marble Company, Tate, Ga.: Marble.
- Get There Mining Company, Prosperity, Mo.: Zinc and lead ore, sphalerite, galena, chert, and greenockite.
- Gettys, L. A., Shelby, N. C.: Monazite sand.
- Gilbert, Charles, Carterville, Mo.: Zinc ore, crystallized sphalerite.
- Gilberts, A. J., Zem Zem, Cal.: Onyx.
- Gilbreth Seam Face Granite Company, Boston, Mass.: Granite.
- Gillfillan Flagstone Company, Fort Scott, Kans.: Flagstone.
- Gillen Stone Company, Velp, Wis.: Oil-bearing sandstone.
- Gillis, Jim, Hackass Hill mine, Tuolumne County, Cal.: Gold quartz, rich in silver.
- Gilmore, J. T., Deadwood, S. Dak.: Silver-lead ore.
- Girard, L. N., Castella, Cal.: Clay.
- Gladding, McBean & Co., Lincoln, Cal.: Clay for making brick, accompanied by bricklet.
- Glasgow Western Exploration Company, Golconda, Nev.: Copper ore.
- Gold Coin Company, Hidden Treasure mine, Gilpin County, Colo.: Gold and silver ore.
- Gold Coin Company, Indiana mine, Gilpin County, Colo.: Gold, silver, and lead ore.
- Golden Gate Mining Company, Golden Gate mine, Tuolumne County, Cal.: Gold quartz.
- Golden Mines Company, Alabama mine, Mariposa County, Cal.: Gold quartz.
- Golden Wedge mine, Clear Creek County, Colo.: Silver and copper ore.
- Gold King Mining and Milling Company, Siverton, Colo.: Gold and silver ore.
- Gold King Mining Company, Cripple Creek, Colo.: Gold ore, phonolite and quartz, \$140 per ton; fluorite and quartz.
- Goodenough Mining Company, Carterville, Mo.: Lead and galena.
- Gopher Gold Mining Company, McCabe, Ariz.: Gold ore.
- Gorman Mining Company, Nevadaville, Colo.: Uranium ore.
- Goss, John L., Stonington, Me.: Granite.
- Gouverneur Marble Company, Gouverneur, N. Y.: Marble.
- Grafton Quarry Company, St. Louis, Mo.: Dolomite.
- Granby Mining and Smelting Company, Granby, Mo.: Lead and zinc ores, galena, and sphalerite.
- Grand Central Mining Company, Mammoth, Utah: Gold and silver ore, showing free gold and cerargyrite.
- Grandelmeier, J., Good Luck mine, Nevada: Lead and silver, copper and tungsten ore.
- Grand Prize Mining Company, Tuscarora, Nev.: Stephanite and ruby silver.
- Graphic Mines and Smelting Works, The, Magdalena, N. Mex.: Lead ores and fluxes necessary to smelt successfully all ore from this mine.
- Gray, George D., Empire mine, Sierra County, Cal.: Gold quartz.
- Great Eastern Quicksilver Mining Company, Guerneville, Sonoma County, Cal.: Mercury ore, cinnabar.
- Great Falls Fire Brick Company, Great Falls, Mont.: Flint clays.
- Great Western Quicksilver Mining Company; offices, San Francisco, Cal.: Mercury ore, cinnabar.
- Green, G., Padre mine, Los Angeles County, Cal.: Gold quartz.
- Green Mountain Mining Company, Green Mountain mine, Plumas County, Cal.: Gold quartz.
- Gregg, S. G., Snows Canyon, Nev.: Bromide of silver.
- Gregory & Co., Carson River, Nev.: Copper ore.

- Grier, T. J., Lead, S. Dak.: Gold quartz taken from each level of the Homestake mine.
- Griffith, D., Griffith quarry, Placer County, Cal.: Granite.
- Griswold, M., White Mountain mine, Mono County, Cal.: Melanterite.
- Grizzly Bear Mining Company, Ouray, Colo.: Silver ore.
- Groezinger, W., Esmeralda County, Nev.: Coal.
- Guilfoyle, P., Poorman, Nev.: Lead and silver ore.
- Gunnell Mining Company, Central City, Colo.: Gold ore.
- Gurley Investment Company, Montrose County, Colo.: Copper ore.
- Gwin Development Company, Gwin Spring mine, Calaveras County, Cal.: Gold quartz.
- Haile Mining Company, Lancaster County, S. C.: Gold concentrates.
- Haines, J. M., Boise, Idaho: Copper ore.
- Hall, F. S., Ojai Valley, California: Gypsum.
- Hall, J. R., Cherokee mine, Tuolumne County, Cal.: Gold quartz (rich).
- Halstead Brothers, Plumas County, Cal.: Gold quartz (rich).
- Hanchet, L., Lamartine mine, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Hancock Mining Company, Silverton, Colo.: Silver and lead ore.
- Hanks, Mrs. W., Contact, Nev.: Copper ore.
- Hardwicke, James K., Madison County, N. C.: Kaolin, for manufacture of earthenware, etc.
- Harmon & McIlroy, Carterville, Mo.: Zinc ore, sphalerite with chert.
- Harris Clay Company, Dillsboro, N. C.: Kaolin, for manufacture of earthenware, etc.
- Hart, J. W., Crystal mine, Shasta County, Cal.: Gold quartz.
- Hart, R. G., California Quicksilver mine, Yolo County, Cal.: Quicksilver ore.
- Hartke, John J., Elkridge, Md.: Clays for the manufacture of brick, accompanied by bricklet.
- Hartley, H. H., Excelsior mine, Meadow Lake, Cal.: Gold quartz.
- Hartman, C. T., Birmingham, Ala.: Clay for the manufacture of brick, accompanied by bricklet.
- Hatch Hill Bed Slate Works, Whitehall, N. Y.: Slate.
- Hatch, R. S., Tacna mine, near Yuma, Ariz.: Mica.
- Hathenbruck, F. W. C., Provo City, Utah: Slate.
- Havens, H. B., & Co., Lone Star mine, Calaveras County, Cal.: Gold quartz.
- Hawkins, E. M., Denver, Colo.: Publication—The Mining World.
- Hayes Brothers, Ashland, Wis.: Iron ore from Ashland mines.
- Heald, E. P., Nevada City mine, Nevada County, Cal.: Gold quartz.
- Heikes, Victor C., Boulder, Colo.: Gold ore, showing crystals of gold on sphalerite.
- Heim, Fred., Nasby, S. Dak.: Silver-lead ore.
- Heims, Thomas C., & Co., Osceola Mills, Pa.: Bituminous coal.
- Henly, George, Henly, Cal.: Sandstone.
- Henrich, Carl, Flat River, Mo.: Cobalt and nickel ores, with their associated rocks.
- Henry, C., Mining Company, Empire City, Kans.: Zinc ore, sphalerite.
- Hessleton, B. C., Petaluma, Cal.: Melanterite.
- Hetzl, David B., Newton, N. J.: Slate.
- Heydenfeldt, S., Coso mine, Inyo County, Cal.: Silver ore; also partzite from Mono County, and clay from Amador County.
- Hickey, D., Ormsby, Nev.: Copper ore.
- Hidden Treasure Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Hill, J. T., Black Oak mine, Tuolumne County, Cal.: Gold quartz.
- Hislop, T. George, western Florida: Ball clay, accompanied by example in bricklet form.
- Hogan, J., Ophir, Nev.: Lead and silver ore.

- Holmes Mining Company, Candelaria, Nev.: Chloride of silver ore.
- Holy Terror Mining Company, Keystone, S. Dak.: Gold ore.
- Home Mining Company, Star shaft, Leadville, Colo.: Silver lead ore of the typical gray lead sand carbonate, showing cerargyrite, assaying 1,000 ounces silver and 25 per cent lead.
- Home-Riverside Coal Company, Leavenworth, Kans.: Bituminous coal.
- Homestake Mining Company, Lead, S. Dak.: Series of ore specimens from the 200 to 800 foot levels. Photographs.
- Horsfal Mining and Milling Company, Gold Hill, Colo.: Gold and silver ore.
- Houghton, S. C., Pioneer Hydraulic mine, Sierra County, Cal.: Gold in cement.
- Hovey, William, Griffith mine, Clear Creek County, Colo.: Silver, lead, and copper ore.
- Hoyt, Howard, Hoyt's Granite quarry, Placer County, Cal.: Granite.
- Hudson and Chester Granite Company, Chester, Mass.: Granite.
- Hunt & Alexander, Royal Rock mine, San Bernardino County, Cal.: Gold quartz.
- Huntington, W. W., Gilman, Eagle County, Colo.: Gold ore and gray lead sand carbonates.
- Husband, W., Gopher Boulder mine, Placerville, Cal.: Gold quartz.
- Hyde, Henry C., Poule mine, Placer County, Cal.: Gold quartz.
- Hydraulic Press Brick Company, St. Louis, Mo.: Fire clay, for manufacture of fire brick, tiles, etc.
- Hymer, J. P., Copper Hill mine, Nahant, S. Dak.: Copper ore.
- Ibex Mining Company, Leadville, Colo.: Gold, silver, and copper ore, and iron oxide carrying values in gold and silver.
- Idaho Mining Company, Idaho mine, Nevada County, Cal.: Gold quartz.
- I. D. Company, Carson, Nev.: Soda crystals.
- Illinois Steel Company, Chicago: Iron ores.
- Independence Mining Company, Cripple Creek, Colo.: Gold telluride ore.
- Indiana Coal Company, Blairsville, Pa.: Bituminous coal.
- Indiana Paving Brick Company, Brazil, Ind.: Shale, for manufacture of paving and vitrified brick.
- Ingalls Zinc Company, Newmarket, Tenn.: Zinc ore and concentrates.
- Ingersoll-Sergeant Drill Company, New York City: Rock drills and gas compressors, track and bar channelers, coal cutters, air receivers, and inter and after coolers.
- Integral Mining Company, Integral mine, Trinity County, Cal.: Quicksilver ore.
- Interstate Coal and Coke Company, Baltimore, Md.: Bituminous coal, coke.
- Inyo Development Company, Inyo County, Cal.: Silver ore, soda, borate of lime, and magnesite.
- Iowa Brick Company, Des Moines, Iowa: Clay for the manufacture of brick, accompanied by bricklet.
- Iowa Consolidated Mining Company, Central City, Mo.: Disseminated zinc ore, lead ore, breccia of sphalerite and chert.
- Iowa Gold Mining and Milling Company, Silverton, Colo.: Gold, lead, and silver ore.
- Iron Age Publishing Company, New York City: Publications relative to the iron industry, charts.
- Iron Hill Mining Company, Carbonate, S. Dak.: Lead ore.
- Iron Silver Mining Company, Moyer shaft, Leadville, Colo.: Silver and zinc ore, showing different types of ore for concentration.
- Irvine, J., San Joaquin ranch, Orange County, Cal.: Gypsum (alabaster).
- Isabella Mining Company, Cripple Creek, Colo.: Gold ore, fluorite, and oxidized quartz, from 500 and 1,000 foot levels, assaying \$400 and \$20,000 per ton.
- Ivanhoe Mining Company, Gilpin County, Colo.: Gold, silver, and lead ore.
- Jackson, G. A., Sulphur Bank, Cal.: Sulphur.
- Jackson's New Jersey Brownstone quarry, Haledon, N. J.: Brownstone.

- Jeffrey Manufacturing Company, Columbus, Ohio: Coal-mining machinery, electric generators, mine locomotives, conveyors, crushers, and drills.
- Jeffs, L. A., Rockland, Mich.: Crystallized copper.
- Jenkins, W. W., San Feliciane placers, Cal.: Gold quartz (rich).
- Jocinte Mining Company, Humboldt County, Nev.: Copper ore.
- Jones, Edward, Sulphur Creek, Cal.: Aragonite.
- Jones, J. F., Blacksburg, S. C.: Iron ore, baryta.
- Johnson, N., Kern mine, Kern County, Cal.: Clay (fuller's earth).
- Johnston, J. A., Johnston's mine, San Bernardino County, Cal.: Silver ore.
- Judd, E. G., Columbia, Nev.: Silver ore.
- Juniper Mining Company, Juniper mine, Mariposa County, Cal.: Gold quartz.
- Justice Mining Company, Gold Hill, Nev.: Gold and silver ore.
- Kaolin Company, The, Sharon, Conn.: Kaolin, for manufacture of earthenware, etc.
- Kahl, Charles, Cadmus mine, Nevada County, Cal.: Gold quartz, with pyrite.
- Kanaka Mining Company, Kanaka mine, Sierra County, Cal.: Gold quartz.
- Kelley, W., Lyon County, Nev.: Copper ore.
- Kemmerer Coal Company, Kemmerer, Wyo.: Bituminous coal.
- Kendall Mount Gold and Silver Mining Company, Silverton, Colo.: Gold and silver ore.
- Kennedy, David, Centennial mine, Georgetown, Colo.: Gold, silver, and copper ore.
- Kennedy, Mining Company, Imperial, Nev.: Gold ore.
- Kennedy Mining Company, Kennedy mine, Amador County, Cal.: Gold quartz.
- Kennedy Milling and Mining Company, Jackson, Amador County, Cal.: Mine timbering, showing method of timbering California mines.
- Kentucky Bluestone Company, Freestone, Ky.: Sandstone.
- Kentucky Construction Company, Mayfield, Ky.: Ball clay, accompanied by example in bricklet form.
- Kentucky Fluor Spar Company, Crittenden County, Ky.: Fluor spar, crude and ground.
- Kessler Brothers, San Francisco, Cal.: Onyx and aragonite.
- Keystone Gold Mining Company, Keystone, S. Dak.: Gold ore.
- Keystone Marble Company, Annville, Pa.: Marble.
- Keystone Quarries, Pacolet, S. C.: Granite.
- Kicking Horse Mining Company, Black Tail Gulch, Deadwood, S. Dak.: Gold ore.
- King, Dr. J. C. E., Salt Lake City, Utah: Copper ore from St. George.
- King Mining Company, The, King of Arizona mine, near Yuma, Ariz.: Gold ore.
- Kirk, W. H., Welcome, Nev.: Plumbago.
- Kirtley Tunnel Company, Georgetown, Colo.: Silver and lead ore.
- Kline, J., Esmeralda, Nev.: Black metal.
- Klondike Mining Company, Aurora, Mo.: Zinc ores, sphalerite, and calamine.
- Knapp, S. A., Mountain King, Nev.: Lead and silver ore.
- Knight, Jesse, Humbug mine, Eureka, Utah: Silver and gold ore, and sand carbonate of lead.
- Knight, John W., Connolton mines, Ward, Colo.: Tungsten ore.
- Knight, Wilbur C., Laramie, Wyo.: Collection of Wyoming ores.
- Kunz, George Frederick, 11-15 Union square, New York: Original publications.
- Lackawanna Iron and Steel Company, Scranton, Pa.: Iron ore from Tilly Foster mine.
- Ladd & Clement, Hard Tack mine, Trinity County, Cal.: Gold quartz.
- Lake, H. W., Daggett, Cal.: Iron ore.
- Lake Superior Consolidated iron mines, Duluth, Minn.: Iron ores.
- Lamartine Mining Company, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Larson, A., Euchre Bar mine, Placer County, Cal.: Gold quartz.
- La Sal Copper Mining Company, Cashin, Colo.: Copper ore; 1,000 tons shipped netted \$83,000.

- La Sal Mining Company, Red Chief mine, Paradox Valley, Colo.: Silver and copper ore.
- Last Dollar Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and oxidized quartz.
- Laswell, J. W., Laswell's mine, San Bernardino County, Cal.: Silver ore.
- La Tosca Mining Company, Oronogo, Mo.: Zinc ore, sphalerite.
- Lawler & Wills, Hillside, Ariz.: Gold ore.
- Lawrence, W. J., Salt Lake City, Utah: Silver and copper ore.
- Lee, T., Cactus mine, Inyo County, Cal.: Argentiferous galena.
- Le Grand Quarry Company, Marshalltown, Iowa: Limestone.
- Lehigh Coal Mining Company, Dickinson, N. Dak.: Bituminous coal.
- Lemoine, William, Porcupine mine, Mono County, Cal.: Gold quartz.
- Lemmon, H. A., Ormsby County, Nev.: Lead and silver ore, baryta.
- Leonard, P. H., Denver, Colo.: Publication—Ores and Metals; devoted to mining.
- Leopold, Nathan F., 102 Dearborn street, Chicago: Copper ores, massive and crystallized, from the Michigan mines.
- Lepper, G., Ormsby County, Nev.: Infusorial earth.
- Leschinske, Robert, Minerva mine, Inyo County, Cal.: Cerusite.
- Levy, H. M., Mono County, Cal.: Silver ore, partzite (oxide antimony).
- Lexington Coal Mining Company, St. Louis, Mo.: Bituminous coal.
- Lilienthal, A., Tuolumne mine, Tuolumne County, Cal.: Rich gold quartz.
- Lincoln Granite Company, Lincoln quarry, Placer County, Cal.: Granite.
- Lindsay, W. E., Douglas County, Nev.: Antimony.
- Linton, W. D., Wadsworth, Nev.: Volcanic ash.
- Lippincott, J. B., Company, Philadelphia, Pa.: Publications on minerals, chemistry, engineering, etc.
- Listie Mining Company, Somerset, Pa.: Bituminous coal.
- Little John Mining Company, Silverton, Colo.: Silver lead ore.
- Little, W. P., Chico mine, Shasta County, Cal.: Silver ore.
- Livingston Gold Mining Company, The Sugar Loaf, Boulder County, Colo.: Gold ore, showing rusty gold.
- Llewellyn, H. H., Hillsboro, Sierra County, N. Mex.: Lead ore.
- Logan, H. R., Ormsby County, Nev.: Copper ore.
- Lone Pine Mining Company, Big Bug District, Ariz.: Gold, silver, and copper ore.
- Long Dale Mining Company, Long Dale, Va.: Iron ore from Long Dale mine.
- Long, J., Elko County, Nev.: Coal.
- Long Valley Coal Company, Towanda, Pa.: Bituminous coal.
- Los Angeles Granite and Brownstone Company, Sespa, Cal.: Sandstone.
- Lost Lillie Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and galena.
- Lott, C. T., Philbrook, Cal.: Gold, silver, and lead ore.
- Lovelocks, G., Churchill County, Nev.: Nickel and cobalt, marble.
- Lowe, T. H., Cottonwood, Nev.: Basalt.
- Lowe, Henry P., Denver, Colo.: Free gold ore from the Topeka mine, Gilpin County, Colo.; value of specimen, \$1,800; value per ton, \$28,000.
- Lower Mammoth Mining Company, Tintic district, Utah: Gold and arsenical copper ore, with enargite.
- Low Moor Iron Company, Low Moor, Va.: Iron ore from Low Moor mine.
- Luce, W. D., Castle Dome mine, near Yuma, Ariz.: Fluor spar.
- Lucky Guss Mining Company, Cripple Creek, Colo.: Gold ore, showing tellurium, fluorite, and quartz, the characteristic phonolite ore of the Cripple Creek district.
- Lukens, T. P., Los Angeles County, Cal.: Soapstone from Santa Catalina Islands.
- Lyons, S. C., & Bros., Bennington, Vt.: Ball clay, accompanied by example in bricklet form.
- McAlester Coal and Mining Company, Wilburton, Ind. T.: Bituminous coal.

- McBride, James N., Cashin, Colo.: Copper ore from vein 14 feet wide.
- McCarty, J., Gold Reef mine, Inyo County, Cal.: Gold quartz.
- McCoy, James H., Jackson County, N. C.: Kaolin for manufacture of earthenware, etc.
- McDonough, T., Inyo County, Cal.: Gold quartz.
- McGeoghegan, J., Consumers' copper mine, Amador County, Cal.: Copper ore.
- McGill Mining Company, J. F. Jones, Blacksburg, S. C.: Gold and iron ore.
- McKinley Mining Company, Cartersville, Mo.: Lead ore, galena on chert.
- McLane, George B., Cincinnati, Ohio: Lead ore and fluor spar, crude and ground.
- McLean, John R., Washington, D. C.: Lead ore, sandstone, limestone, fluorite, etc.
- McMahon, Porter & Co., New Cumberland, W. Va.: Fire clay for manufacture of fire brick, tiles, etc.
- Mabee, George W., National mine, Gilpin County, Colo.: Gold ore.
- Mahoning Iron and Steel Company, Hibbing, Minn.: Iron ore from Mahoning mine.
- Maine and New Hampshire Granite Company, Portland, Me.: Granite.
- Maine Red Granite Company, Red Beach, Me.: Granite.
- Malones Mining Company, Malones mine, Tuolumne County, Cal.: Gold quartz.
- Mammoth Mining and Milling Company, Mammoth mine, Mammoth, Utah: Gold and copper ore.
- Mandle, I., St. Louis, Mo.: Kaolin and ball clay.
- Manhattan Mining Company, Austin, Nev.: Gold and silver ore, ruby silver ore.
- Mann, T. R., Logan mine, Crisman, Colo.: Gold ore, showing free gold and roscoelite.
- Marion Improvement Company, Demming, N. C.: Monazite sand.
- Marion Mining Company, Galena, Nev.: Silver and lead ore.
- Martha Washington Mining Company, Silver City, Utah: Silver ore.
- Martine, C. H., McClellan mine, Georgetown, Colo.: Silver ore, showing mineral polybasite.
- Maryland Coal Company, Lonaconing, Md.: Bituminous coal.
- Mary McKinney Mining Company, Cripple Creek, Colo.: Gold telluride ore, showing tellurium, fluorite, and quartz. Assays from \$200 to \$1,000 gold per ton.
- Massachusetts Institute of Technology, Boston, Mass.: Minerals of the oxygen salts of Dana's classification; collected by W. O. Crosby.
- Mathews, H. H., Boston, Mass.: Slate from Vermont and New York.
- Maxwell Land Grant Company, Raton, N. Mex.: Gold in nuggets and dust.
- Mayer, L. W., Mount Cliff, Cal.: Clay.
- Mayhugh, J. S., Elko County, Nev.: Copper ore.
- Mead, William, Hillsboro, Sierra County, N. Mex.: Lead ore.
- Melvina Mining Company, Salina, Colo.: Telluride ore.
- Menomonee Hydraulic Press Brick Company, Menomonee, Wis.: Clay, for making brick.
- Merriam, Dr. A. F., Rabbit Creek, Cal.: Model of gold nugget, value, \$614.
- Metich, J., Cave City mine, Calaveras County, Cal.: Gold quartz.
- Michigan Mining Company, Bay City, Mich.: Bituminous coal.
- Michigan School of Mines, Houghton, Mich.: Collection of native elements, occurring in the United States; collected by H. T. Mercer.
- Midas Gold Mining and Milling Company, Deep Creek, Utah: Gold and silver ore.
- Migman, Berryman & Ford, Ward, Colo.: Gold ore, iron pyrite.
- Milford Pink Granite Company, Boston, Mass.: Granite.
- Mill Creek Coal and Coke Company, Coopers, W. Va.: Bituminous coal, coke.
- Millner, J., Indian Queen mine, Nev.: Lead and silver ore.
- Milwaukee Cement Company, Milwaukee, Wis.: Cement.
- Mine Hill Quarry Company, Roxbury Station, Conn.: Granite.
- Mine Hill Mining Company, Burnsville, N. C.: Chromic iron.

- Mine la Motte Mining Company, Mine la Motte, Mo.: Lead and nickel ores and furnace products. This mine has been worked continuously for two hundred years.
- Minnesota Iron Company, Soudan, Minn.: Iron ores.
- Minnesota Mining Company, 19 Congress street, Boston, Mass.: Native copper.
- Minnesota Sandstone Company, Minneapolis, Minn.: Sandstone.
- Mirabel Standard Mining Company, Mirabel mine, Lake County, Cal.: Quicksilver ore.
- Missouri Granite Company, St. Louis, Mo.: Granite.
- Mitchell, Charles, Howard Hill, Cal.: Scheelite.
- Mittallbury Coal and Coke Company, Mittallbury, W. Va.: Bituminous coal, coke.
- Modesti & Avila, Colorado mine, Yuma County, Ariz.: Galena.
- Mollie Gibson Consolidated Mining Company, Aspen, Colo.: Native silver; largest mass ever mined; value, \$3,000.
- Monongahela River Consolidated Coal and Coke Company, Pittsburg, Pa.: Bituminous coal, coke.
- Monson Maine Slate Company, Boston, Mass.: Slate.
- Montana Coal and Coke Company, Fairmont, W. Va.: Bituminous coal, coke.
- Montana Coal and Coke Company, Horr, Mont.: Bituminous coal, coke.
- Monte Cristo Mining Company, Galena, Kans.: Zinc ore, greenockite on smithsonite.
- Moonshine Mining Company, Granby, Mo.: Zinc ore, crystallized calamine, smithsonite, and sphalerite.
- Morgan, D. W. C., Star Light mine, Eldorado County, Cal.: Gold quartz.
- Morgan Milling Company, Carson City, Nev.: Copper sulphate.
- Morning Star Mining Company, Ward, Colo.: Gold ore.
- Morning Star Mining Company, Morning Star mine, Alpine County, Cal.: Silver ore (enargite).
- Morrell, J. A., Cedarberg mine, El Dorado County, Cal.; Gold quartz.
- Morrisdale Coal Company, Philadelphia, Pa.: Bituminous coal.
- Morrison, E. A., Petersburg, Va.: Fire clay, for manufacture of fire brick, tiles, etc.
- Morris Run Coal Company, Corning, N. Y.: Bituminous coal.
- Morse, H., Victorine District, Nev.: Gold and silver ore.
- Moss, Jerome, Grover, N. C.; Clay, for manufacture of brick, accompanied by bricklet.
- Mountain Copper Company, Shasta County, Cal.: Refiners' products, copper matte and moss, copper bar, copper ore.
- Mountaineer Mining Company, Mountaineer mine, Nevada County, Cal.: Gold quartz.
- Mount Airy Granite Quarries, Mount Airy, N. C.: Granite.
- Mount Carbon Coal Company, Powellton, W. Va.: Bituminous coal.
- Mountford, Elijah, South Amboy, N. J.: Ball clay, accompanied by example in bricklet form.
- Mount Copper Company, Lost Confidence mine, Shasta County, Cal.: Limonite.
- Mount Diablo Mining Company, Mount Diablo, Nev.: Black metal.
- Mount Hope mine, Humbug, Ariz.: Gold, silver, and lead ore.
- Mouse River Lignite Coal Company, Burlington, N. Dak.: Bituminous coal.
- Moyer, J. S., & Co., Bethlehem, Pa.: Straight and curved slates.
- Murdock, William A., Norwegian mine, Tuolumne County, Cal.: Gold quartz (rich).
- Murphy, Arthur, Marguerite mine, Milford, Utah: Copper ore.
- Murphy, F. M., Castle Creek, Ariz.: Manganese ore.
- Muscovite Mica Company, Auditorium Building, Chicago: Fine quality of mica from Idaho.
- Myles Salt Company, New Orleans, La.: Salt.
- National Bank of Commerce, Seattle, Wash.: Gold nuggets.
- National Lead Company, St. Louis, Mo.: Lead ore, galena.

- National Nickel Company, Churchill, Nev.: Nickel and cobalt; also annabergite and nicolite from Table Mountain.
- National Steel Company, Chicago, Ill.: Iron ore from Champion mine.
- Neff, J. H., Penryn, Cal.: Granite.
- Neidy, J. Aurora, Nev.: Gold ore, obsidian.
- Neodesha Mining Company, Ouray, Colo.: Silver ore, showing stephanite.
- Nesbit, J. S., Spring Valley mine, Butte County, Cal.: Gold quartz.
- Nettie Mining Company, Griffith mine, Georgetown, Colo.: Silver and lead ore.
- Nevada and Boston Company, Lyon County, Nev.: Copper ore.
- Nevada Commission to Paris Exposition, Carson City, Nev.: Collective exhibit of Nevada minerals. Contributors:
- Aluminium Lustre Company, Esmeralda County—Diatomaceous earth.
 - Eagle Mining Company, Eagle mine—Gold ore.
 - Fish, G., Ida mine—Silver ore.
 - Hadley, T. J., Arizona mine—Silver and gold ore.
 - Hilp, S., Joanna mine—Gold ore.
 - Hogan, J. W., Wall Street mine—Copper ore.
 - Ingalls, W., Esmeralda County—Coal.
 - Keystone Mining Company, Keystone mine—Gold ore.
 - Lang, J., Elko County—Coal.
 - Murphy & Eggers, Bullion mine—Copper and silver ore.
 - Roberts, G., Pine Mountain—Lead ore.
 - Roberts, S. P., Black Jack—Gold and silver ore.
- Nevada, State of: Collection of minerals representing the resources of the State, collected by J. A. Yerington, H. B. Maxson, and W. J. Dooley.
- New Almaden Quicksilver Mining Company, New Almaden, Cal.: Glass model of mine; wood model self-closing door. Iron floating on quicksilver.
- Newcomb, B. M., Napa Consolidated mine, Napa County, Cal.: Quicksilver ore.
- New Dunderberg Mining Company, Silver Plume, Colo.: Silver and lead ore.
- New England Brown Stone Company, Cromwell, Conn.: Brownstone.
- New England Gas and Coke Company, The, Everett, Mass.: Bituminous coal, coke.
- Newhouse & Weir, Dragon mine, Silver City, Utah: Gold and silver ore.
- New Idria Quicksilver Mining Company, Tres Pinos, San Benito County, Cal.: Mercury ore, cinnabar.
- New Jersey Zinc Company, Franklin Furnace, N. J.: Zinc ore, manganese, millenite, franklinite.
- New Sapphire Syndicate, Great Falls, Mont.: Oriental sapphires, in the rough.
- New Salt and Borax Company, Rhodes, Nev.: Borax, borate of lime.
- Newsboy Mining Company, Ouray, Colo.: Silver lead ore.
- Newton, H. A., Hanover mine, Fresno County, Cal.: Gold quartz.
- New York and Rosendale Cement Company, Ulster County, N. Y.: Light cement rock.
- New York State Museum, Albany, N. Y.: Geological reports.
- Niagara Mining Company, Niagara mine, Trinity County, Cal.: Gold quartz.
- Nichols, H. W., Chicago, Ill.: Zinc ores from Arkansas; zinc and lead ores from Wisconsin.
- Nisi Prius Mining Company, Leadville, Colo.: Hard carbonate lead ore.
- Nix, C. H., Ouray, Colo.: Silver lead ore, assaying 1,000 ounces silver to the ton.
- Nixon, G., Winnemucca, Nev.: Refined sulphur.
- Noble, William, Eureka mine, San Diego County, Cal.: Gold quartz (assays \$2,000 per ton).
- Noon, A. A., Eureka, Utah: Kaolin.
- Norcross Brothers, Boston, Mass.: Marble, granite, and sandstone.
- North Bloomfield Gravel Company, San Francisco, Cal.: Model of the largest gold bar ever cast, representing one month's run.

- North Carolina Board of Agriculture, Raleigh, N. C.: Gold nuggets. Contributors:
 Bunnell Mountain mine, Montgomery County.
 Caldwell County.
 Dry Hollow mine, Montgomery County.
 Eldorado Township, Montgomery County.
 Gold Hill mine, Rowan County.
 Miller mine, Rowan County.
 Montgomery County—Various placer mines.
 Nugget mine, Cabarrus County.
 Parker mine, Stanly County.
 Ramslen mine, Gaston County.
 Redding mine, Moore County.
 Smitherman mine, Montgomery County.
- North Carolina Paris Commission, Raleigh, N. C.: Collection of ores, representing the mineral wealth of North Carolina. Contributors:
 Aiken, E. A., Brevard—Auriferous sulphides.
 Aldrich, M., Washington, District of Columbia—Auriferous limonite.
 Aldrich Mining Company, Salisbury—Free milling gold ore.
 American Mills Mining Company, Mecklenburg County—Chalcopryrite.
 American Mining Company, Cabarrus County—Chalcopryrite.
 Ames, M., Charlotte—Auriferous pyrite.
 Anderson Mining Company, Salisbury—Auriferous sulphides.
 Ballow & Gentry, Jefferson, Ashe County—Magnetite (manganiferous).
 Bates, J. G., Franklin—Hematite.
 Bessemer Mining Company, Bessemer City—Limonite.
 Blue Wing Mining Company, Granville County—Bornite, copper, malachite.
 Bost, Charles, Cabarrus County—Auriferous sulphides.
 Bost, Martin, Cabarrus County—Auriferous sulphides.
 Boyleston Gold Mining Company, Henderson County—Free milling ore.
 Brimley, H. H., Raleigh, Ashe County—Magnetite.
 Bruner, T. K., Raleigh, Gaston County—Magnetite.
 Buckley, W. F., Rowan County—Auriferous sulphides.
 Campbell, J. C., Moore County—Azurite and malachite.
 Carson, J. H., Charlotte—Auriferous sulphides.
 Cheek Mining Company, Chatham County—Bornite with malachite.
 Childers, William, Grimley's—Limonite.
 Clayton Bros., Davidson County—Auriferous pyrite, limonite.
 Clegg Mining Company, Chatham County—Chalcopryrite, azurite, malachite.
 Counder, Eli, Indian Trail—Auriferous sulphides and carbonates.
 Cowie Creek Mining Company, Macon County—Argentiferous pyrite galenite.
 Cranberry Iron and Coal Company, Cranberry, Mitchell County—Magnetite.
 Crowell, M. E., Indian Trail—Auriferous sulphides.
 Deaton, J. M., Swinton—Free milling gold ore.
 Deep River Mining Company, Greensboro—Auriferous sulphides.
 Dixon Mining Company, Yadkin County—Malachite, chalcopryrite.
 Dortch, H. P., Junior, Raleigh—Hematite.
 Douglass, M., Dunn—Hematite (manganiferous).
 Dunn's Mountain Mining Company, Salisbury—Auriferous sulphides.
 Eames, R., jr., Ashe County—Malachite, bornite, chalcopryrite, copper.
 Fagg, M., Danbury, Stokes County—Magnetite.
 Finch, J. W., & Co., Davidson County—Argentiferous sulphides.
 Fuller, Dr. A., Jones—Free milling gold ore.
 Furr, Dr. S., Cabarrus County—Auriferous sulphurets.
 Gillis Mining Company, Person County—Chalcocite, malachite, bornite.

North Carolina Paris Commission, Raleigh, N. C., etc.—Continued.

Goggins, George, Eldorado—Free milling gold ore.

Graham, W. A., Lincoln County—Auriferous sulphides.

Graybeal, Joseph, Jefferson—Magnetite.

Greensboro Iron and Steel Company, Greensboro—Hematite.

Griffin, J. W., Monroe—Auriferous limonite.

Gullowhee Mining Company, Jackson County—Malachite in limonite.

Hanks Iron Property, Murphy—Limonite.

Hanna, George B., Charlotte—Auriferous sulphides.

Harris, J. F., Thomasville—Auriferous sulphides.

Hauser, Henry, Lincolnton—Pyrolusite.

Hedrick, M. L., Davidson County—Auriferous sulphides.

Hoke, Gen. R. F., Raleigh—Hematite (martite schist).

Holmes, J. A., Chapel Hill—Chromite.

Honeycut, D. W., Gold Hill—Placer alluvial dirt.

Hoover Hill Company, Limited, Randolph County—Free milling gold ore.

Isenhour, George W., Gold Hill—Free milling ore.

Jones, Milton, Eldorado—Free gold in sulphides and slate.

Justice, John, Plumptree—Red hematite.

Kesler, J. W., Garfield—Free milling gold ore.

Kluttz & Peck, Cabarrus County—Malachite in slate.

Lawton, Charles L., Bessemer City—Magnetite,

Lewis, J. L. V., Brooklyn, New York—Auriferous sulphides.

Link-Benedict Mining Company, Iron Station—Magnetite.

McDowell, Manly, Morganton—Limonite.

McMackin Mining Company, Salisbury—Auriferous pyritic slate.

Mann, Charles G., High Point—Gold bearing gravel.

Miller, C. A., Eli—Auriferous sulphides.

Mills, J. C., Burke County—Auriferous gravel.

Monroe, J. L., Swinton—Free milling gold ore.

Morse Mining Company, Murphy—Limonite.

Muffley, J. R., Eldorado—Auriferous sulphides.

Newman, J. J., Rowan County—Auriferous copper ore.

Newman, W. G., Salisbury—Auriferous sulphides in slate.

North Carolina Agricultural Department, Wilkes County—Silver ore.

North Carolina Steel and Iron Company, Greensboro—Limonite.

Nussman Mining Company, Cabarrus County—Auriferous chalcopyrite.

Oddy, Thomas, Salisbury—Auriferous sulphides.

Palmer, Robert, Guildford County—Auriferous sulphides.

Parrott & Armstrong, King's Mountain, Gaston County—Magnetite.

Parton, George, Burningtown—Limonite (manganiferous).

Patterson, S. L., Raleigh—Psilomelane.

Perkins Mining Company, Caldwell County—Auriferous sulphides, limonite.

Peters, J. F., Davidson County—Auriferous sulphides.

Pharr Mining Company, Cabarrus County—Chalcopyrite.

Phoenix Mining Company, Cabarrus County—Auriferous pyrite.

Pitcher, Captain A., Charlotte—Auriferous sulphides.

Plummer, J. R., & Company, Jones—Auriferous sulphides.

Pratt, J. H., Chapel Hill—Chromite.

Randleman, J. L., Salisbury—Auriferous sulphides.

Ray, G. D., Burnsville—Chromite.

Reed Mining Company, Cabarrus County—Chalcopyrite and malachite.

Redding, Dr. A. H., Cedar Falls—Free milling ore.

Reynolds, J. R. & A. S., Winston, Forsyth County—Magnetite.

North Carolina Paris Commission, Raleigh, N. C., etc.—Continued.

Rives, Miss Lucy, Raleigh—Magnetite.

Roan Mountain Iron and Steel Company, Bakersville—Specular hematite.

Rogers, M., Danbury—Magnetite.

Russell Gold Mining Company, Glenbrook—Free milling gold ore.

Russell, Nelson, Eldorado—Free milling gold ore.

Sanders, Tobe, Eldorado—Free milling gold ore.

Seacrest, L. M., Indian Trail—Auriferous sulphides.

Shipletts Mining Company, Shipletts—Auriferous sulphides.

Silver Mining Company, Davidson County—Argentiferous sulphides.

Smart Mining Company, Union County—Argentiferous galena.

Smith, A. W. S., Charlotte—Auriferous sulphides.

Smith, H. M., Cabarrus County—Auriferous copper ore.

Southern Belle Mining Company, Salisbury—Auriferous limonite.

Stanley Freehold Mining Company, Stanley County—Free gold in quartz.

Stanley, Isaac, Guildford County—Chalcopyrite and pyrite.

Tarbell, S. H., Indian Trail—Auriferous sulphides.

Thayer, N. M., Eldorado—Free milling and sulphide ore.

Theis, M., Concord—Free milling gold ore.

Thing, C. C., Indian Trail—Auriferous sulphides.

Tierman, Mrs. J. M., Rowan County—Argentiferous galena.

Tomlinson, Dr. J. M., Rosedale—Auriferous sulphides.

Toneotta Iron Company, Murphy—Limonite.

Troutman Mining Company, Rowan County—Argentiferous sulphides.

Union Mining Company, Cabarrus County—Chalcopyrite, malachite, limonite.

Valleytown Mining Company, Murphy—Limonite.

Viele, C. G., Rowan County—Auriferous sulphides.

Warren, S. J., Charlotte—Auriferous pyrite.

Welborn Mining Company, Davidson County—Argentiferous galena, pyrite.

West Prussian Mining Company, Davidson County—Silver ores, sulphides.

Widenhouse Mining Company, Cabarrus County—Free milling ores.

Wilcox, W. C., Carthage—Free milling gold ore.

Wilkes, John, Mecklenburg County—Auriferous sulphides.

Wilkins, J., & Co., Davidson County—Auriferous sulphides.

Williams, Mrs. W., Gold Knob—Auriferous sulphides.

Wilson Mining Company, Wilson's Mills—Limonite.

Yoke, A. J., Weldon—Auriferous limonite.

Yountz, J. L., Indian Trail—Auriferous galenite.

North Carolina State Museum, Raleigh, N. C.: Collection of unpolished gems.

North Empire Mining Company, Empire City, Kans.: Lead ore, crystals of galena.

Northern Coal Company, Denver, Colo.: Bituminous coal.

Northern Michigan Marble Company, Foster City, Mich.: Marble.

Northern Pacific Coal Company, Tacoma, Wash.: Bituminous coal.

North Monson Maine Slate Company, Worcester, Mass.: Slate.

North Star Mining Company, North Star Mine, Shasta County, Cal.: Gold quartz.

North Star Mining Company, Silverton, Colo.: Gold and silver ore.

Norton, C. S., Blue Stone Company, Bedford, Ind.: Limestone.

Notla Consolidated Marble, Iron and Tale Company, Kinsey, N. C.: Marble.

Oakes Mining Company, Cove Spring, Kans.: Zinc and lead ore, sphalerite, and galena.

Oak Hill Mining Company, Chatham County, N. C.: Iron ore.

O'Oonnor, Con., Rockland, Cal.: Granite.

Ohio Fire Brick Company, Oak Hill, Ohio: Flint clays.

Oil Well Supply Company, Pittsburg, Pa.: Oil well machinery in operation; tools and supplies.

- Old Dominion Copper Company, Baltimore, Md.: Mines at Globe, Ariz.—Copper pseudomorph after cuprite.
- Old Dominion Mining Company, Coville, Wash.: Silver ore, with cerargyrite and bromyrite.
- Old Jordan and Galena Mining Company, Bingham, Utah: Gold and copper ore.
- Oleta Marble Company, Oleta Marble Quarry, Amador County, Cal.: Marble.
- Oliver, Dave, Bonanza Mine, Tuolumne County, Cal.: Hessite and free gold.
- Oliver Iron Mining Company, Milwaukee, Wis.: Iron ores.
- Omaha and Grant Smelting Company, Smuggler Mine, Aspen, Colo.: Lead and silver ore.
- Ontario and Western Railway Company, New York City: Anthracite coal.
- Ontario Silver Mining Company, Ontario Mine, Park City, Utah: Silver and lead ores. This mine has paid \$40,000,000 in dividends.
- Ophir Mining Company, Comstock, Nev.: Sulphurets.
- Oregon Coal and Navigation Company, San Francisco, Cal.: Bituminous coal.
- Oregon Improvement Company, Seattle, Wash.: Bituminous coal.
- Ore Knob Mining Company, Gold Hill, N. C.: Copper ore.
- Oro Bella Mining Company, Oro Bella, Ariz.: Gold ore.
- Orton, Edward, jr., Columbus, Ohio: Publications on geology.
- Osborne, Seager & Co., Cleveland, Ohio: Bituminous coal.
- Oskaloosa Coal Company, Oskaloosa, Iowa: Bituminous coal.
- Overland Mining and Milling Company, Sunshine, Utah: Gold ore, with orpiment and cinnabar.
- Ozark Mining Company, Galena, Kans.: Lead ore, galena, and chert.
- Pacific Coast Borax Company, Mojave Desert, Cal.: Borax.
- Pacific Coast Borax Company, San Francisco, Cal.: Borax, crude and prepared.
- Pacific Copper Company, Esmeralda County, Nev.: Copper ore.
- Pahannes, Capt. Isaac, Royal Sulphur mine, near Yuma, Ariz.: Sulphur and alum.
- Parfet, G. W., Golden, Colo.: Clay, for manufacture of stoneware, etc.
- Parke County Coal Company, Rosedale, Ind.: Bituminous coal.
- Parke, S. F., Amador, Cal.: Marble.
- Parrett, J., Bonanza mine, Mono County, Cal.: Gold quartz.
- Parry, E. L., & Sons, Manti, Utah: Sandstone and limestone.
- Parry, R., Washoe County, Nev.: Copper ore.
- Patterson, C. W., Lyon County, Nev.: Copper ore.
- Patton Coal Company, Patton, Pa.: Bituminous coal.
- Pearce, Richard, manager, Boston and Colorado Smelting and Refining Company, Denver, Colo.: Ores treated at the Argo Smelter, Argo, Colo.
- Pelican Dives Mining Company, Georgetown, Colo.: Silver and lead ore.
- Penn Mining Company, Favorite mine, Lynx Creek, Ariz.: Gold, silver, and lead ore.
- Pennsylvania Coal Company, New York City: Anthracite coal.
- Pennsylvania Railroad Company, Philadelphia, Pa.: Anthracite coal.
- Penrod, E., Elko County, Nev.: Gold ore.
- Penrose Home Mining Company, Leadville, Colo.: Lead and silver ore.
- Penrose, R. A. F., Pearce, Ariz.: Silver, showing cerargyrite.
- Perfumo, P. B., Perfumo Ranch, San Luis Obispo County, Cal.: Limonite.
- Perkins Company, The, New York City: Bituminous coal.
- Perry, Mathews & Buskirk, Bedford, Ind.: Limestone.
- Perth Amboy Terra Cotta Company, Perth Amboy, N. J.: Clay for making brick, with bricklet.
- Pettinos Brothers, Byers, Pa.: Graphite.
- Pewabic Mining Company, Iron Mountain, Wis.: Iron ore from Pewabic mines.
- Peyton, Gill S., Picnic mine, Silver City, Utah: Silver and lead ore.
- Phal, Richard, Platt & Gilson mine, Tuolumne County, Cal.: Gold quartz (rich).

- Pharmacist Mining Company, Cripplecreek, Colo.: Gold ore, fluorite, and quartz, \$100 gold per ton.
- Pierce, John, 5 Beekman street, New York City: Polished red granite columns utilized in construction of façade of United States mining exhibit.
- Pierce, J. V., Cherokee County, Kans.: Collective exhibit of lead and zinc ores.
- Pigeon Roost Belt, Lumpkin County, Ga.: Gold ore.
- Pike Manufacturing Company, Pike Station, N. H.: Whetstone of all kinds.
- Pilgrim Mining Company, Cavespring, Mo.: Zinc ore from soft ground, calamine, and concentrates. Concentrates 63 per cent zinc.
- Pinnacle Gold Mining Company, Cripplecreek, Colo.: Gold ore, phonolite, and basalt, from \$20 to \$2,000 per ton in gold.
- Pittsburg and Lake Angeline Mining Company, Marquette, Mich.: Iron ore from Lake Angeline.
- Pittsburg and Wheeling Coal Company, Cleveland, Ohio: Bituminous coal.
- Pittsburg Coal Company, Pittsburg, Pa.: Bituminous coal.
- Pittsburg Coal Mining Company, Somersville, Cal.: Bituminous coal.
- Pittsburg Crushed Steel Company, Pittsburg, Pa.: Polishing substances, crushed steel, and steel emery.
- Place, O. F., Buckeye mine, Bradshaw Mountains, Ariz.: Gold, silver, and lead ore.
- Placerville Gold Mining Company, Rosebud mine, Eldorado County, Cal.: Gold quartz.
- Plastic Kaolin Company, The, Edgar, Fla.: Ball clay, accompanied by example in bricklet form.
- Platt Pressed Brick Company, Vanmeter, Iowa: Fire clays, for manufacture of fire brick, tiles, etc.
- Pleasant River Granite Company, Portland, Me.: Granite.
- Pleasant Valley Coal Company, Salt Lake City, Utah: Bituminous coal.
- Plymouth Consolidated Mining Company, Plymouth mine, Amador County, Cal.: Gold quartz (from a chute that yielded \$10,000,000).
- Pomona Terra Cotta Company, Pomona, N. C.: Shale, for manufacture of paving and vitrified brick.
- Poole Brothers Publishing Company, Chicago: Mining directory and reference book.
- Poole's Granite and Marble Company, Elmont, Mass.: Granite.
- Polar Star Mining Company, Silverton, Colo.: Gold and silver ore.
- Porter, Charles M., Joplin, Mo.: Lead ore, galena.
- Portland Cement Company, Salt Lake City, Utah: Crude and prepared cement.
- Portland Mining Company, Cripplecreek, Colo.: Gold ore, including the rare sylvanite of that district.
- Poston, C. L., & Co., Nelsonville, Ohio: Bituminous coal.
- Prairie Creek Coal Company, Huntington, Ark.: Bituminous coal.
- Pratt, A. C., Red Canyon, Nev.: Lead, silver, and iron ore.
- Prescott Mining Exchange, Prescott, Yavapai County, Ariz.: Gold, silver, lead, and copper ore.
- Preston, E. B., Evening Star mine, Haydenhill, Cal.: Gold quartz, anglesite, aragonite, calcites, molybdenite, coal.
- Pridgeon, D. E., Salem, Ohio: Clay for manufacture of brick, accompanied by bricklet.
- Princeton University, Princeton, N. J.: Collection of minerals of the oxide group occurring in the United States, by E. R. Hewitt.
- Providence Gold Mining Company, Providence mine, Nevada County, Cal.: Gold quartz, assaying \$1,200 per ton.
- Pulaski Iron Company, Pulaski, Va.: Iron and zinc ore, limonite, hematite, and zinc accretions from stack of furnace.

- Purington Paving Brick Company, Galesburg, Ill.: Shale for making paving and vitrified brick.
- Putnam's, G. P., Sons, New York City: Publications on geology, mining, metallurgy, and mineralogy.
- Pyle, D. M., St. Elmo mine, Kern County, Cal.: Gold quartz (rich—assays \$1,000 per ton).
- Pyramid Mining Company, Pyramid mine, Eldorado County, Cal.: Gold quartz.
- Queen County Stoneware Company, Denver, Colo.: Stoneware clay for manufacture of stoneware, etc.
- Quicksilver Mining Company, New Almaden, Santa Clara County, Cal.: Mercury ore, cinnabar.
- Quincy Mining Company, Hancock, Mich.: Copper rock.
- Rainbow Mining Company, Sierra County, Cal.: Arsenical pyrite; silver ore from Inyo County.
- Rand Drill Company, New York City: Rock drills for mine and quarry work, air compressors, prospecting and core drills.
- Randolph, B. S., Frostburg, Md.: Sandstone.
- Rangel, Robert, Henley, Cal.: Sandstone.
- Ranlett, Captain, Calaveras County, Cal.: Copper ore.
- Raton Coal and Coke Company, Raton, N. Mex.: Bituminous coal.
- Raycraft, E., Douglas County, Nev.: Copper ore.
- Raymond Granite Company, Raymond granite quarry, Madera County, Cal.: Granite.
- Raymond, M., Star mine, Fresno County, Cal.: Silver ore.
- Raymond & Ely, Ely, Nev.: Silver ore.
- Reardon, George W., Ward, Colo.: Iron ore.
- Red Umbrella Mining Company, Cripplecreek, Colo.: Gold ore, basalt, and quartz, assaying from \$20 to \$40 gold per ton.
- Redway, J. W., Los Angeles County, Cal.: Vivianite, siderite.
- Reed, A. J., Blue Bird mine, Nevada: Copper ore.
- Reed, C., Diamond, Nev.: Lead and silver ore.
- Reed, C. F., Gold Blossom mine, Placer County, Cal.: Gold quartz.
- Reed, H. W., Ouray, Colo.: Silver lead ore.
- Reeves, C. P., Suisun, Solano County, Cal.: Sandstone.
- Reid, I. H., Union mine, Calaveras County, Cal.: Azurite (rich).
- Reims, Thomas C., & Co., Osceola Mills, Pa.: Bituminous coal.
- Reinhold, H., & Co., Custer, S. Dak.: Spodumene, shipping 1,000 tons to Germany for extraction of lithia.
- Rend, W. P., & Co., Chicago: Bituminous coal.
- Republic Iron and Steel Company, Chicago: Iron ore.
- Republic Mining Company, Republic, Mich.: Iron ore from Republic mine.
- Republic Mining and Manufacturing Company, Rockrun, Ala.: Bauxite.
- Rhode Island Granite Works, Westerly, R. I.: Granite.
- Rhode Island Graphite Company, Arlington, R. I.: Graphite.
- Rhodes, E. and D., Lincoln County, N. C.: Potter's clay, for manufacture of earthenware, etc.
- Rhodes, M. G., Aetna mines, Napa County, Cal.: Quicksilver ore, cinnabar.
- Rhopeter, George, Lone Pine mine, Big Bug District, Ariz.: Copper ore.
- Richardson, J. M., Star of the West mine, Calaveras County, Cal.: Gold quartz.
- Richards, T., Sheridan mine, Calaveras County, Cal.: Azurite.
- Rich Hill Coal and Mining Company, St. Louis, Mo.: Bituminous coal.
- Richmond Consolidated Mining Company, Richmond, Nev.: Lead and silver ore.
- Richmond Mining and Milling Company, Salina, Boulder County, Colo.: Gold ore, showing petzite.

- Richmond Mining Company, Cartersville, Mo.: Zinc and lead ores, sphalerite, and galena.
- Rickard, Forbes, Seventy-Six mine, Gilpin County, Colo.: Gold and silver ore.
- Rider, P. S., Rico, Colo.: Collection of the Enterprise ores.
- Ridgway Burton Company, Massillon, Ohio: Bituminous coal.
- Ridgway Mining Company, Silverton, Colo.: Gold and silver ore.
- Rittenhouse, N. M., Baltimore, Md.: Clay, for manufacture of brick, accompanied by bricklet.
- Riverside Iron Works, Wheeling, W. Va.: Bituminous coal.
- Roach, James, Tuckahoe, Mo.: Zinc ore, sphalerite in clay.
- Roach, Thomas, Yavapai County, Ariz.: Gold quartz.
- Roberts, P. Z., North Star mine, Nevada County, Cal.: Gold quartz.
- Robins Conveying Belt Company, Park Row buildings, New York City: Operating belt conveyors for handling ore, coal, and tailings in smelters, cyanide works, and concentrating plants.
- Robinson Mining Company, Mammoth, Utah: Silver, lead, and copper ore.
- Rochester and Pittsburg Coal and Iron Company, Punxsutawney, Pa.: Bituminous coal.
- Rockhill Iron and Coal Company, Rockhill Furnace, Pa.: Bituminous coal.
- Rocklind Quarry Company, Rocklink quarry, Placer County, Cal.: Granite.
- Rockport Granite Company, Boston, Mass.: Granite.
- Rocky Ford Coal Company, Red Lodge, Mont.: Bituminous coal.
- Rocky River Brownstone Company, Bay City, Mich.: Sandstone.
- Rocky Point Granite Works, Exeter, Tulare County, Cal.: Granite.
- Roeder, Henry, New Whatcom, Wash.: Sandstone.
- Rogers, Brown & Co., 71 Broadway, New York City: Raw materials used in the manufacture of pig iron.
- Rogers Mining Company, Stokes County, N. C.: Iron ore.
- Rogers, Mrs. L. S., Kern County, Cal.: Ingot of antimony.
- Rogers, O. T., Granite Company, Quincy, Mass.: Granite.
- Rohwer, George, Lewis mine, Telluride, Colo.: Silver, gold, and lead ore.
- Romer Mining Company, Easton, Pa.: Iron ore from Richards mine.
- Romona Oolitic Stone Company, Indianapolis, Ind.: Limestone.
- Rosenheimer, John, Cedar Lake Park, Wis.: Clay, for making brick, accompanied by bricklet.
- Rosenthal, J., Empire City, Kans.: Zinc and lead ore, sphalerite and galena.
- Rosiclaire Mining Company, Rosiclaire, Ill.: Lead ore, sandstone, limestone, fluorite, etc.
- Ruckel, A. D., & Son, Whitehall, Ill.: Stoneware clay, for the manufacture of stoneware, etc.
- Russell, G., Elko, Nev.: Mineral soap.
- Russell Mining Company, Potosi, Washington County, Mo.: Lead ore, galena.
- St. Anthony Mining and Milling Company, Sunset, Boulder County, Colo.: Gold and copper ore.
- St. Bernard Coal Company, Earlington, Ky.: Bituminous coal.
- St. Joe Lead Company, The, Bonnetterre, Mo.: Lead ores, limestone, etc.
- St. Joe Lead Company, St. Louis, Mo.: Lead ore, galena, and concentrates.
- St. Louis Well Machine and Tool Company, St. Louis, Mo.: Well-drilling machine in operation.
- Sagamore Coal Company, Sagamore, Mich.: Bituminous coal.
- Salisbury Mining and Milling Company, Idaho Springs, Colo.: Gold and silver ore, showing bornite.
- Salmon River Mining Company, Contact, Nev.: Copper ore.
- Salt Lake City Onyx Company, Salt Lake City, Utah: Onyx.

- Salt Lake Coal Company, Salt Lake City, Utah: Bituminous coal.
- Sanford, Albert B., Griffith mine, Clear Creek County, Colo.: Silver, lead, copper, and iron ore.
- San Benito Mining Company, New Idria mine, San Benito County, Cal.: Quicksilver ore, cinnabar.
- Sanderson, F., Riddles, Oreg.: Nickel ore, genthite.
- San Diego Marble Company, San Diego marble quarry, San Diego County, Cal.: Marble.
- San Fernando Company, San Fernando, Los Angeles County, Cal.: Sandstone.
- San Francisco and San Joaquin Coal Company, San Francisco, Cal.: Bituminous coal.
- San Francisco Slate Company, Placer County, Cal.: Slate.
- San Francisco Street Improvement Company, Bitumen mine, Ventura County, Cal.: Bituminous rock.
- San Juan Star Mining Company, Silverton, Colo.: Gold and silver ore.
- Sauser, Andre, Caliente Creek, Kern County, Cal.: Silver ore.
- Schmidt, W., Whiteplains, Nev.: Phosphates.
- Schnabel, D. M., Bellevue mine, Placer County, Cal.: Gold quartz.
- Schneider Granite Company, St. Louis, Mo.: Granite.
- Schneider, Louis, Valley Forge mine, Boulder County, Colo.: Telluride gold ore, with native tellurium.
- School of Mines, Columbia University, N. Y.: Scientific publications.
- Schreiber, W. A. H., Webster, N. C.: Nickel and chromic iron ore.
- Schuritzer & Boyer, Churchill County, Nev.: Copper ore.
- Schweyzer & Liess, King of Prussia, Pa.: Marble.
- Scientific Publishing Company, The, New York City: Publications—geology, mining, metallurgy, and mineralogy.
- Schlesinger, Ferdinand, Milwaukee, Wis.: Iron ores.
- Scott Brothers, Black Oak mine, Tuolumne County, Cal.: Gold quartz from 300 to 700 foot levels.
- Scranton, Jewett, Summit mine, Shasta County, Cal.: Gold quartz.
- Seager, A. L., Antelope Valley, Los Angeles County, Cal.: Marble.
- Seaton Mining and Milling Company, Idaho Springs, Colo.: Gold, silver, and lead ore.
- Sebewaing Coal Company, Sebewaing, Mich.: Bituminous coal.
- Sellwood, Joseph, Duluth, Minn.: Iron ore from Brotherton mine.
- Semon, Adolph, Meshoppen, Pa.: Bluestone.
- Sharwood, W., Soulsby mine, Tuolumne County, Cal.: Gold quartz, with galena (rich).
- Shasta Mining Company, Mount Shasta mine, Shasta County, Cal.: Silver o
- Shawmut Coal Company, St. Marys, Pa.: Bituminous coal.
- Shearer, F. E., Eagle Bird mine, Nevada County, Cal.: Gold quartz.
- Sheriff Mining Company, Cripple Creek, Colo.: Gold ore, phonolite, and quartz.
- Sherman, W. A., Salt Lake City, Utah: Gold ores from the Sunshine mines.
- Shockley, W. H., Mount Diablo, Nev.: Gold and silver ore, lead and silver ore.
- Sierra Buttes Gold Mining Company, Uncle Sam mine, Shasta County, Cal.: Gold quartz, \$50 per ton.
- Sills, W. H., Mica Company, Chicago: American mica, natural formation and manufactured products.
- Silver Bow Mining Company, Napa County, Cal.: Cinnabar.
- Silver Dick Mining Company, Oronogo, Mo.: Zinc ore, crystallized sphalerite.
- Silver King Mining Company, Silver King, Utah: Lead and silver ore.
- Silver, Lowry, Corney mine, San Bernardino County, Cal.: Silver and copper ore.
- Silverthorn, G. W., Gdalpom mine, Shasta County, Cal.: Limonite.
- Simpson, Edward, Salt Lake City, Utah: Aluminum earth.

- Sims Coal Company, Sims, N. Dak.: Bituminous coal.
- Sinnamahoning Gold and Copper Company, Sierra County, N. Mex.: Copper ore.
- Slatington Slate Company, Slatington, Pa.: Slate.
- Sloan, R. E., Yeager mine, Black Hills, Ariz.: Copper ore, showing cuprite.
- Sloss Furnace, The, Birmingham, Ala.: Iron ores.
- Sloss Iron and Steel Company, Birmingham, Ala.: Bituminous coal.
- Smith, A. L., Little Chief mine, Inyo County, Cal.: Silver ore; magnetite from Coast Range mine, San Benito County.
- Smith, Chandler, Chandler Smith mine, Shasta County, Cal.: Gold quartz.
- Smith Granite Company, Westerly, R. I.: Granite.
- Smith & McNicol, Addie, N. C.: Kaolin, for manufacture of earthenware, etc.
- Smith, W. T., Elko County, Nev.: Shale.
- Smuggler Union Mining Company, The, Telluride, Colo.: Gold, silver, and lead ore.
- Southern Mining Company, Atlanta, Ga.: Bituminous coal.
- Southern Railway Company, Washington, D. C.: Ores and minerals from North Carolina, Georgia, and Alabama.
- South Eureka Mining Company, South Eureka mine, Amador County, Cal.: Gold quartz.
- South Side Mining and Manufacturing Company, Galena, Kans.: Zinc and lead ores, sphalerite, galena.
- South Spring Mining Company, South Spring mine, Amador County, Cal.: Wall rock.
- South Swansea Mining Company, South Swansea mine, Silver City, Utah: Silver and lead ore.
- Southwestern Coal and Improvement Company, Coalgate, Ind. T.: Bituminous coal.
- Southwest Virginia Improvement Company, Philadelphia, Pa.: Bituminous coal.
- Specie Payment Mining Company, Clear Creek County, Colo.: Gold and silver ore.
- Spring Valley Hydraulic Company, Spring Valley mine, Butte County, Cal.: Wood model of hydraulic sluice box.
- Squier, E. E., & Co., St. Louis, Mo.: Foundry molding sand.
- Staddon, Samuel, Santa Barbara, Cal.: Quicksilver lead.
- Standard Asphaltum Company, Standard mine, Ventura County, Cal.: Crude and refined asphaltum.
- Standard Asphalt Company, San Francisco, Cal.: Crude and refined asphaltum.
- Standard Coal and Coke Company, Newcomb, Tenn.: Bituminous coal, coke.
- Standard Oil Company, 26 Broadway, New York City: Petroleum—The conditions of its occurrence; its products, their uses, and the methods of their distribution.
- Stanley Consolidated Mining Company, Idaho Springs, Colo.: Gold and silver ores.
- Stanstead Granite Quarries, Beebeplain, Vt.: Granite.
- Star Consolidated Mining Company, Mammoth, Utah: Gold, silver, lead, and copper ore.
- Stark & Rolsten, Joplin, Mo.: Zinc ore, disseminated sphalerite in chert.
- State Ore Sampling Company, Evergreen mine, Pine Creek, Gilpin County, Colo.: Gold, silver, and copper ore.
- Steel, T., Oro Mine, Inyo County, Cal.: Silver ore from 750-foot level; gold ore.
- Stein & Boericke, Philadelphia, Pa.: Alloys, and rare minerals used in their manufacture.
- Sterling Coal and Coke Company, Salt Lake City, Utah: Bituminous coal, coke.
- Steubenville Coal and Mining Company, Steubenville, Ohio: Bituminous coal.
- Stevens, B. H., Calico, San Bernardino County, Cal.: Borate of lime and magnesia.
- Stevens Coal Company, Coalburg, W. Va.: Bituminous coal.
- Stevens, H., Calistoga mine, Napa County, Cal.: Clay.
- St. Lawrence Marble Company, Gouverneur, N. Y.: Marble.
- Stockbridge Soapstone Works, Colfax, Placer County, Cal.: Soapstone.
- Stockwell, H. E., Star mine, Fresno County, Cal.: Argentiferous galena.

- Stoiber, Edward G., & Co., Silver Lake mine, Silverton, Colo.: Gold and silver ore.
- Stoiber, G. H., Robert Bonner mine, Silverton, Colo.: Gold and silver ore, showing free gold.
- Stone, W. B., Galena, Kans.: Zinc and lead ores, from Galena and Empire City, Kans.
- Stonycreek Red Granite Company, Stonycreek, Conn.: Granite.
- Storms, W. H., sheep ranch, Calaveras County, Cal.: Limonite.
- Stowe, H., San Bernardino, San Bernardino County, Cal.: Clay.
- Stow, H. P., Gold Bank mine, Butte County, Cal.: Quartz crystals and gold quartz.
- Stump, S. C., Fine Gold mine, Fresno County, Cal.: Gold quartz.
- Sublette, William, Carga Muchacha mine, San Diego County, Cal.: Gold quartz (rich).
- Sullivan, William, Silverton, Colo.: Gold and silver.
- Summit Mining Company, San Bernardino County, Cal.: Gold quartz.
- Sun Dance Mining Company, Silver Trail mine, Senator district, Arizona: Gold, silver, and copper ore.
- Sunset Mining Company, Granby, Mo.: Zinc ore, calamine, and sphalerite.
- Sunset Mining Company, Sunset mine, Kern County, Cal.: Sulphur.
- Sunshine Mining Company, Telluride, Colo.: Gold and silver ore.
- Superior China Clay Company, Chippewa Falls, Wis.: Kaolins, for manufacture of earthenware, etc.
- Sutherland, W. J., Holmes, Nev.: Lead and silver ore.
- Swain, W., Gold King mine, San Diego County, Cal.: Gold quartz.
- Sweet, W. H., Dudley, Pa.: Bituminous coal.
- Sweetwater Coal Company, Rock Springs, Wyo.: Bituminous coal.
- Sykes, C. P., 33 Broadway, New York City: Two onyx slabs and six marble columns furnished for façade to mining space; lithographic stone.
- Sylvester, H., Rocky Glen mine, Nevada County, Cal.: Gold quartz.
- Taft & Dunn, Sterling, Ariz.: Copper ore.
- Taggart & Hall, Gold Bronze mine, San Bernardino County, Cal.: Gold quartz.
- Taylor, R. B., Taylor mine, Death Valley, Inyo County, Cal.: Gold quartz.
- Tehachapi Building and Stone Company, Tehachapi, Kern County, Cal.: Sandstone.
- Teich, Frank, San Antonio, Tex.: Granite.
- Temescal Mining Company, Temescal mine, Riverside County, Cal.: Tin ore.
- Temple, E. S., Emancipation mine, Salina, Boulder County, Colo.: Gold ore, showing tellurium, and ore roasted freeing gold.
- Tennessee Coal, Iron and Railroad Company, Birmingham, Ala.: Iron ores, limonite, and hematite, bituminous coal.
- Tennessee Producers' Marble Company, Knoxville, Tenn.: Marble.
- Texas and Pacific Coal Company, Fort Worth, Tex.: Bituminous coal.
- Texas Briquette and Coal Company, Briquette, Tex.: Bituminous coal.
- Texas Consolidated Mining Company, Texas mine, Shasta County, Cal.: Gold quartz.
- Texas Mining Company, Los Angeles County, Cal.: Rich gold quartz.
- Thacker Coal and Coke Company, Thacker, W. Va.: Bituminous coal, coke.
- Thies, J., Humboldt, Nev.: Sulphur, crude and refined.
- Thompson Mining Company, Deadwood, S. Dak.: Gold ore.
- Thompson Run Coal Company, Newcastle, Pa.: Bituminous coal.
- Thorp & Son, Mountain View, Nev.: Antimony.
- Thorp, H. T., Terre Haute, Ind.: Shale, for manufacture of paving and vitrified brick.
- Tiffany & Co., Union Square, New York City: American gems in the rough, precious and semiprecious.
- Tiger Mining and Milling Company, Silverton, Colo.: Gold and silver ore.
- Timber Line Mining Company, Ward, Colo.: Pyritic gold ore.

- Tinsley, C. D., Prince George County, Va.: Ocher.
- Tomboy Gold Mines Company, Telluride, Colo.: Gold ore.
- Trade Dollar Mining and Milling Company, Silver City, Idaho: Silver ore, showing argentite.
- Traupell, Eugene, Dolly Varden mine, Sunset, Colo.: Chalcopyrite containing gold values.
- Treedley, J. K., & Sons, Philadelphia, Pa.: Marble from Vermont.
- Tregarden Brothers, Yellville, Ark.: Zinc ore blende from White Eagle mine, Marion County, Ark.
- Troop, William, Shingle Springs, Eldorado County, Cal.: Yellow ocher.
- True Blue Marble Company, Rutland, Vt.: Marble.
- Tuck, J. H. L., Oro Fino mine, Eldorado County, Cal.: Gold quartz.
- Tungsten Mining Company, Omaha, Nebr.: Wolframite from Hill City, S. Dak.
- Turner Brick Company, West Chicago, Ill.: Clay for making of brick; accompanied by bricklet.
- Turner Coal, Coke and Mining Company, Ferris, Pa.: Bituminous coal, coke.
- Tyler, Charles M., King mine, San Bernardino County, Cal.: Silver ore (rich).
- Tyro Mining Company, Tyro mine, Nevada County, Cal.: Gold quartz (very rich).
- Tyson Mining Company, Eldorado County, Cal.: Chromic iron ore and cinnabar.
- Ulster Bluestone Company, Malden, N. Y.: Sandstone.
- Uncle Sam Mining Company, Uncle Sam mine, Shasta County, Cal.: Gold quartz.
- Union Copper Company, Goldhill, N. C.: Copper ore.
- Union Glee Club of San Francisco, Reward mine, Nevada County, Cal.: Gold quartz, \$1,200 per ton.
- Union Gold Mining Company, Cripplecreek, Colo.: Gold ore, phonolite, fluorite, showing tellurium and galena.
- Union Iron Works, San Francisco, Cal.: Working model of a complete California gold quartz mill.
- Union Lead Company, St. Louis, Mo.: Cobalt, nickel, and lead ores, galena and other sulphides.
- Union Oil Company, San Francisco, Cal.: Asphalt.
- Union Pacific Company, Omaha, Nebr.: Bituminous coal.
- Union Sandpaper Company, Roxbury, Conn.: Garnet crystals.
- Union Soapstone Company, Boston, Mass.: Soapstone.
- Union Sulphur Company, Sulphur, La.: Sulphur.
- United Globe Mining Company, Globe, Ariz.: Copper ores, with malachite, azurite, and chrysocolla.
- United States Marble Company, Spokane, Wash.: Onyx and serpentine.
- United States Mining Company, Bingham, Utah: Iron pyrite crystals.
- Universal Company, Chicago: Bituminous coal.
- University of Chicago, Chicago, Ill.: Collection of minerals included in Group III of Dana's classification. Collected by J. P. Iddings.
- University of Wyoming, Laramie, Wyo.: Block of soda, mirabilite; from Downey deposits.
- Updike, N. B., Lonegum, Va.: Alum rock.
- Utah Mining Company, Fishsprings, Utah: Silver and lead ore.
- Utica Mining Company, Utica mine, Calaveras County, Cal.: Wood model of mine timbering.
- Van Houten, J., Raton, N. Mex.: Gold dust and nuggets.
- Van Nostrand, D., & Co., New York: Publications upon geology, mining, metallurgy and mineralogy.
- Verd-Antique Marble Company, Chicago: Georgia verd-antique marble.
- Verdenal, D. F., Rainbow mine, Inyo County, Cal.: Silver ore (rich).
- Vermont Marble Company, Proctor, Vt.: Marble.

- Victor Coal Company, Denver, Colo.: Bituminous coal.
- Victor Marble Company, Victor, San Bernardino County, Cal.: Marble.
- Vilas Mining Company, Breckinridge, Colo.: Lead ore.
- Virginia Coal and Coke Company, Gayton, Va.: Bituminous coal.
- Virginia Iron, Coal and Coke Company, Bristol, Tenn.: Iron ores from Virginia and Tennessee mines; coal and coke.
- Voy, C. D., Rabbit Creek, Sierra County, Cal.: Model of gold nugget, value \$3,240.50.
- Vulcanized Fiber Company, Eureka mine, Calaveras County, Cal.: Yellow ocher.
- Wagner, C. M., Dunseith, N. Dak.: Ballast clay, for railway ballast, showing prepared product.
- Walsh, Thomas F., Camp Bird mine, Ouray, Colo.: Gold ore, mine producing \$5,000 per day.
- Wampum Run Coal Company, Wampum, Pa.: Bituminous coal.
- Ward & Capito, Watsonville mine, Bradshaw Mountains, Arizona: Gold, silver, and lead ore.
- Ward, E. B., Little Lake, Cal.: Sulphur, crude.
- Ward, W. S., Denver, Colo.: Ores from Cripple Creek.
- Warsaw Blue Stone Company, Warsaw, N. Y.: Bluestone.
- Washington Junction Stone Company, Point of Rocks, Md.: Mosaic marbles and brownstone.
- Waterman, W. S., Waterman quarry, San Diego County, Cal.: Granite.
- Watertown Brick Company, Watertown, N. Y.: Clay for making brick, accompanied by bricklet.
- Watts & Heikes, Boulder, Colo.: Tellurium crystals.
- Watts & Melton, Brown Bearmine, Trinity County, Cal.: Gold quartz.
- Webber, F., Alum Creek, Nevada: Gold ore.
- Webb Granite and Construction Company, Worcester, Mass.: Granite from New Hampshire.
- Webb, I. A., Deadwood, S. Dak.: Collection of Black Hills ore.
- Wedge Mining Company, Wedge mine, Ouray, Ouray County, Colo.: Silver lead ore.
- Weir, John, Lead and Zinc Company, Mossycreek, Tenn.: Zinc blende and galena.
- Wells, George A., Greatfalls, Mont.: Sapphires and other gems in the rough.
- Wells, Heber C., Salt Lake City, Utah: Collection of ores representative of Utah's mineral wealth.
- Welsbach Light Company, Broad and Arch streets, Philadelphia, Pa.: Monazite sand.
- Western Coal and Mining Company, St. Louis, Mo.: Bituminous coal.
- Westfield Marble and Sandstone Company, Westfield, Mass.: Serpentinic marble.
- Westmoreland Coal Company, The, Philadelphia, Pa.: Collection of coals.
- Weston, S. G., Elko County, Nev.: Copper ore.
- West Virginia Central and Pittsburg Railway Company, Piedmont, W. Va.: Bituminous coal.
- Wetherby, A. G., Mitchell County, N. C.: Iron ore.
- Wheeler & Hurlbert, Ouray County, Colo.: Silver lead ore.
- Whipsaw Mining Company, Whipsaw, Castle Creek, Ariz.: Gold and copper ore.
- White Breast Fuel Company, Chicago: Bituminous coal.
- White, Peter, Marquette, Mich.: Gold from Michigan gold mine.
- Wickford & Snapp, White Star, Yavapai County, Ariz.: Gold and silver ore.
- Wick, H. K., & Co., Buffalo, N. Y.: Bituminous coal.
- Wiley, J., & Son, New York: Publications on mineralogy, etc.
- Wilkinson Coal and Coke Company, Wilkinson, Wash.: Bituminous coal, coke.
- Williams & Company, Boston, Mass.: Soapstone from Vermont and New Hampshire.
- Williams, C. K., & Co., Lehigh County, Pa.: Iron oxides, red and yellow, and other mineral paints.

Williams, David, Company, New York: Publication, *The Iron Age*, having relation to the iron industry.

Williams, E. W., Central City, Colo.: Gold ore.

Williams, J. A., Gunsight Mine, Inyo County, Cal.: Silver ore.

Williams, John R., Buckingham, Va.: Slate.

Williams, W., Look Out mine, Trinity County, Cal.: Gold quartz.

Willis, G. F., Sacramento mine, Mono County, Cal.: Gold quartz.

Wilmington Star Mining Company, Coal City, Ill.: Bituminous coal.

Wilson, F. J., Lewisburg, Ohio: Limestone.

Wilson, W., Pinegrove, Nev.: Gold, silver, and lead ore.

Windsor Lead and Zinc Company, Empire City, Kans.: Zinc and lead ore, sphalerite and galena.

Winslow, J. H., Riddles, Oreg.: Nickel ore, showing mineral genthite.

Winsor, Mulford, Cibola quarry, near Yuma, Ariz.: Building stone.

Wirth & Hulings, Wirth mine, Ward, Colo.: Gold ore.

Wise, A., Humboldt County, Nev.: Native sulphur.

Withersbers, Sherman & Co., Port Henry mines, Port Henry, N. Y.: Iron ore.

Wohler, C., Edison mine, Nevada County, Cal.: Copper sulphide.

Wood, H., & Bros., Adelaide mine, Calaveras County, Cal.: Gold quartz.

Wood, H. E., Louisville mine, Leadville, Colo.: Crystallized pyrites.

Wood, Henry E., Denver, Colo.: Galena, iron pyrite, and feldspar crystals.

Woodhull, S. D., Inyo County, Cal.: Quartz crystal, calcites, silver ore, silver-lead ore, copper ore with cuprite.

Woods Investment Company, Colorado Springs, Colo.: Collection of gold ores.

Wood, T. S., Lillian Mine, Leadville, Colo.: Native gold, crystals and leaf.

Woodward Iron Company, Birmingham, Ala.: Red iron ores.

Woody, William, Cincinnati mine, Merced County, Cal.: Cinnabar.

Work Mining and Milling Company, Cripple Creek, Colo.: Gold ore, fluorite, and quartz.

Wormser Filter Plate Company, Carthage, Mo.: Tripoli.

Wright, J. D., Sonora, Cal.: Clay.

Wyatt, J. T., Faith, N. C.: Granite.

Wyoming, State of, engineering department: Geological and Engineering reports.

Wythe Zinc and Lead Company, Austinville, Va.: Zinc-lead ore, galena, smithsonite, and sphalerite, concentrates.

X-Ray Mining Company, Granby, Mo.: Lead and zinc ores, galena, calamine, sphalerite, greenockite and tallow clay, chert and limestone.

Yankee Girl Mining Company, Red Mountain, Colo.: Silver ore, bornite.

Yellow Jacket Mining Company, Comstock, Virginia City, Nev.: Sulphurets.

Yerington, J. A., Carson City, Nev.: Ores and minerals representing mineral wealth of Nevada.

Yost, John, Junction mine, Tuolumne County, Cal.: Gold quartz.

Young, B. H., Gold Band mine, Deep Creek, Utah: Copper silver ore.

Young, C. W., Calais, Me.: Granite.

Young, Mrs. J., Gold Chief mine, San Bernardino County, Cal.: Gold quartz.

Yreka Journal Publishing Company, Yreka, Cal.: Sandstone.

Zadig & Co., S. F., Zadig mine, Ventura, County, Cal.: Asphaltum rock.

Zanesville Stoneware Company, Zanesville, Ohio: Clay for manufacture of stoneware, etc.

Zenobia Mining Company, Cripple Creek, Colo.: Gold ore, quartz with tellurium, value, \$14,000 per ton.

Zimmerman, Dr., Silverton, Colo.: Tungsten ore, wolframite, scheelite, hubnerite.

Zuni Mining Company, Silverton, Colo.: Gold and silver ore.

CLASS 64.—*Metallurgy.*

- American Steel and Wire Company, New Jersey and New York City: Manipulation of iron and steel from the ores.
- American Steel Hoop Company, Pittsburg, Pa.: Exhibits illustrating the manufacture of iron and steel.
- American Tin Plate Company, Chicago: Tin and terne plates, fine steel sheets, billet to the finished material.
- Ansonia Brass and Copper Company, Ansonia, Conn.: Copper bars, sheets of rolled and planished copper.
- Argillo Works, Carbon Cliff, Ill.: Refractory clay for metallurgical use.
- Bethlehem Steel Company, South Bethlehem, Pa.: Photographs illustrating equipment for working steel in large masses. Armor plates after being tested.
- Boston and Colorado Smelting and Refining Company, Richard Pearce, manager, Denver, Colo.: Roasted mattes.
- Boston and Colorado Smelting Company, The, Argo, Colo.: Products showing the different stages of process employed in smelting.
- California Paris Commission, San Francisco, Cal.: Model quartz stamp mill.
- Carnegie Steel Company, Pittsburg, Pa.: Drawing of Duquesne blast furnace; records of practice; photographs.
- Chateaugay Iron Ore Company, Plattsburg, N. Y.: Series of products of magnetic concentration.
- Christy Fire Clay Company, St. Louis, Mo.: Refractory clay for crucibles, etc., for metallurgical purposes.
- Colorado Fuel and Iron Company, Denver, Colo.: Pig iron and steel ingots, billets, rails, nails, and spikes; drawings and photographs of equipment.
- Copper Queen Mining Company, Bisbee, Ariz.: Copper, furnace products, and by-products made in reduction of ores.
- Crescent Steel Company, Pittsburg, Pa.: Crucible and open-hearth steel and applications in the arts. Tool and die steel, polished rods, fine wire, hot-rolled sheets, bright cold-rolled strips, band-saw blanks, forgings, springs.
- De La Mar Mining Company, Mercur, Utah: Products showing process of treating the base and oxydized ores.
- Denver Fire Clay Company, Denver, Colo.: Refractory clay for the manufacture of crucibles, etc., for metallurgical purposes.
- Department of Mines, Commission to Paris, Chicago: Methodical collection of technical metallurgy, ores, products, charts, drawings, and photographs.
- Detroit Copper Mining Company, Morenci, Ariz.: Copper furnace products, copper matte, refined copper.
- Des Loges Lead Company, Des Loges, Mo.: Lead and furnace products, reverberatory process.
- Dickinson Fire and Pressed Brick Works, Dickinson, N. Dak.: Refractory clay for metallurgical purposes.
- Edison Ore Concentrating Company, Orange, N. J.: Iron ore concentration represented by specimens of raw material and intermediate product.
- Franklin, H. H., Manufacturing Company, Syracuse, N. Y.: Specimens illustrating fine unfinished iron casting; a novel and unique method.
- Graphic Mines and Smelting Works, The, Magdalena, N. Mex.: Ores and fluxes from one mine.
- Great Falls Fire Brick Company, Great Falls, Mont.: Refractory clay for the manufacture and use of metallurgical work.
- Howe, Prof. H. M., Columbia College, New York City: Steel fractures, showing structure of steel by etching.

- Illinois Steel Company, Chicago: Blast-furnace model—iron and steel in ingots, bars, sheets, or finished products.
- Mackintosh, Hemphill & Co., Pittsburg, Pa.: Drawings illustrating the construction of large improved “blooming train.”
- Morris, E. E., & Co., Cincinnati, Ohio: Bar iron and steel.
- New Jersey Zinc Company, Franklin Furnace, N. J.: Samples illustrating the extraction of zinc from its ores.
- Ohio Fire Brick Company, Oakhill, Ohio: Refractory clay for metallurgical use.
- Oliver, Greenwood K., 1214 John street, Baltimore, Md.: Special antifriction metal, called “Silverine Babbitt,” for bearings.
- Pearce, Richard, manager Boston and Colorado Smelting and Refining Company, Denver, Colo.: Roasted mattes from Pearce turret furnace.
- Pencoyd Iron Works, Philadelphia, Pa.: Structural and axle steel, photographs and statistics of steel manufacture.
- Pittsburg Reduction Company, Pittsburg, Pa.: Aluminum extraction from the minerals cryolite and bauxite; aluminum ingots, manufactured aluminum.
- Roebbling's, John A., Sons Company, Trenton, N. J.: Process of manufacture of wire, iron, steel, copper, and bronze.
- Rogers, Brown & Co., 71 Broadway, New York City: Specimens of every class of pig iron made in America.
- Stirling-Firth Company, Pittsburg, Pa.: Steel armor-piercing projectiles after ballistic test, with details of tests.
- Tamarack Mining Company, Hancock, Mich.: Specimens illustrating the extraction of copper from copper ores.
- Taylor Iron and Steel Company, High Bridge, N. J.: Cast-steel shells after test, with details of test, statistics, and complete data.
- Taylor Iron and Steel Company, New York City: Mine wheels, railroad crossings, stamps, coal crusher, etc.
- United Globe Mining Company, Globe, Ariz.: Copper furnace products, copper matte, refined copper.
- Valentine, M. D., & Son Company, Woodbridge, N. J.: Fire brick and cupola blocks.
- Ward Pyritic Smelting Company, Ward, Colo.: Iron matte and slag.
- Wellman Seaver Engineering Company, Cleveland, Ohio: Drawings illustrating the manufacture of iron and steel.

CLASS 65.—*Metal working.*

- American Steel and Iron Manufacturing Company, Reading, Pa.: Bolts, screws, rivets, punches, nuts, turnbuckles, spikes.
- American Steel and Wire Company, New Jersey and New York City: Wire ropes, nails, and all material used by the hardware trade.
- American Tin Plate Company, Chicago: Metal working, and manufactured articles of tin.
- Atkins, E. C., & Co., Indianapolis, Ind.: Steel saws.
- Atlas Tack Company, Taunton, Mass.: Tacks, nuts, bolts, brads, small nails.
- Bommer Brothers, 257-271 Classon avenue, Brooklyn, N. Y.: Spring hinges.
- Colorado Fuel and Iron Company, Denver, Colo.: Merchant iron and steel, railroad supplies, steel plates, etc.
- Copper Queen Consolidated Mining Company, 99 John street, New York City: Brass and copper bars, special shapes, tubing.
- Crane Company, Chicago: Tools for plumbers, and steam and gas fitters. Fittings for steam engines.
- Devlin, Thomas & Co., Philadelphia, Pa.: Saddlery hardware, buckles, rings, hooks, hinges, etc.

- Eagle Lock Company, Terryville, Conn.: Locks, padlocks, keys, and small hardware.
- Enterprise Manufacturing Company, Philadelphia, Pa.: Special patented hardware.
- Franklin, H. H., Manufacturing Company, Syracuse, N. Y.: Castings; finished parts made by a process of casting which avoids machine work.
- Hibbard, Spencer, Bartlett & Co., Chicago: Household enameled ware and metallic weather strips.
- Hibbard, Rodman, Ely Safe Company, 253 Broadway, New York City: Safe in manganese steel, proof against burglars or mobs.
- Illinois Steel Company, Chicago: Metal plates, flanged, stamped, cut, decorated; drawn tubes and piping in iron.
- Ingersoll-Sergeant Drill Company, New York City: Equipments for and methods used in foundries of bronze, brass, and malleable iron, etc.
- Irwin Auger Bit Company, Wilmington, Ohio: Steel augers and bits.
- Jorss, A. F., 315 Thirteenth street NW., Washington, D. C.: Railings in iron.
- Kearney & Foot Company, 100 Reade street, New York City: Files and rasps.
- Manhattan Brass Company, New York: Castings and railings in brass.
- Metallic Flexible Tubing Company, Philadelphia, Pa.: Metallic flexible tubing.
- Morris, J. B., Foundry Company, Cincinnati, Ohio: Iron castings.
- North Brothers Manufacturing Company, Philadelphia, Pa.: Spiral screw-drivers, drills, and hardware specialties. Photograph of works.
- Ohio Tool Company, Auburn, N. Y., and Columbus, Ohio: Mechanics' wood-working tools.
- Oneida Community, Limited, Niagara Falls, N. Y.: Weldless chains.
- Peck & Snyder, 126 Nassau street, New York City: Ice skates and roller skates.
- Phoenix Horseshoe Company, Poughkeepsie, N. Y.: Horse and mule shoes.
- Pike Manufacturing Company, Pike Station, N. H.: Scythe stones, oil stones, razor hones, emery stones, polishing powder, corundum, etc.
- Plumb, Fayette R., Frankford, Philadelphia, Pa.: Hammers, hatchets, cleavers, adzes, axes, bush hooks, picks, and mattocks.
- Roebling's, John A., Sons Company, Trenton, N. J.: Wire, wire rope, bridge cables, electrical conductors, model of Brooklyn suspension bridge.
- Shelton Company, The, Shelton, Conn., and 64 Reade street, New York City: Tacks, small nails, bolts.
- Standard Caster and Wheel Company, 318 East Twenty-third street, New York City: Ball-bearing furniture casters.
- Stanley Rule and Level Company, New Britain, Conn.: Carpenters' tools.
- Stanley Works, The, New Britain, Conn., and 79 Chambers street, New York City: Builders' hardware.
- Stein & Boericke, Philadelphia, Pa.: Alloys of tungsten and other metals.
- Stover Manufacturing Company, Freeport, Ill.: Builders' hardware.
- Taylor Iron and Steel Company, New York City: Burglar-proof safes, made of cast manganese steel.
- Tyler, The W. S., Company, Cleveland, Ohio: Ornamental gratings. Employed in the construction of the national pavilion.
- Williams, C. K., & Co., Lehigh County, Pa.: Red and yellow oxides of iron, and other mineral paints.
- Williams, J. H., & Co., Brooklyn, N. Y.: Drop forgings of iron, steel, bronze, copper, aluminum; wrenches; hoist hooks, eyebolts, parts for machine tools, engines, cycles, firearms, automobiles, typewriters.
- Winslow Brothers Company, The, Chicago: Wrought-iron portcullis gateway and adjoining electric bronze columns forming central entrance United States exhibit of mines and metallurgy.
- Yale & Towne Manufacturing Company, The, New York City: Builders' hardware, employed in the construction of the national pavilion.

GROUP XII.—DECORATION AND FURNITURE OF PUBLIC BUILDINGS AND DWELLINGS.

CLASS 66.—*Permanent decoration of public buildings and dwellings.*

- Beil & Mauch, 81 Illinois street, Chicago: Ornamental plaster, façade of Hall of Honor.
- Bitter, Karl, Weehawken, N. J.: Permanent decorations in plaster.
- Brant, C. E., 156 Fifth avenue, New York: Plan of permanent decorations.
- Bridgeport Wood Finishing Company, New Milford, Conn.: Finished wood and cabinetwork.
- Carr, Lyell, 103 West Fifty-fourth street, New York: Decorative painting on canvas frieze, United States Pavilion.
- Columbia Marble Quarrying Company, Rutland, Vt.: Marble tiles.
- Drake & Co., 359 Drake block, St. Paul, Minn.: Arizona petrified wood.
- Eggleston, Thomas, New York: Design for agricultural façade.
- Garnsey, Elmer E., White Plains, N. Y.: Mural decorations.
- Healy & Millet, 225 Wabash avenue, Chicago: Permanent decorations in plaster.
- Herter, Albert, East Hampton, Long Island, N. Y.: Decorative painting on canvas.
- Kitson, Arthur, Philadelphia, Pa.: Ornamental lamp-posts.
- Klee, John, 327 East Fortieth street, New York City: Ornamental work and staff, Groups XII and XV.
- Koch, G. W., & Son, 467 Fifth avenue, New York: Parquet in national pavilion, teak wood, tiger wood, and mahajua wood.
- Koopman, August, Fifty-seventh street, New York: Decorative painting on canvas.
- Mertz, George, & Sons, Port Chester, N. Y.: Automatic machine-turned and embossed wood molding.
- Northrup, Henry S., 40 Cherry street, New York: Stamped steel ceilings.
- Reid, Robert, 142 East Thirty-third street, New York: Mural decorations.
- Stevenson & Co.: Permanent decorations.
- Taft, Joseph H., 41 East Twentieth street, New York: Ornamental joiner work; decorative plaster and painting.
- Wallis, Frank E., Thompson Building, New York: Design in façade.
- Winslow Bros. & Co., Chicago, Ill.: Ornamental wrought-iron work on United States façade, department mines and metallurgy.
- Zallee, John, 311½ North Seventh street, St. Louis, Mo.: Patent asphalt and cement mixture roofing.

CLASS 67.—*Stained glass.*

- California Art Glass Bending and Cutting Works, San Francisco, Cal.: Stained glass.
- Lamb, J. & R., 23 Sixth avenue, New York: Stained glass.
- Lathrop, Frank, 29 Washington square, New York: Stained glass.
- Tiffany Glass and Decorating Company, 333-341 Fourth avenue, New York City: Colored glass windows for churches and other buildings.
- Tiffany, Louis, 333 Fourth avenue, New York: Stained glass.
- Wilson, Fred., New York, stained glass.

CLASS 68.—*Paper hangings.*

- Campbell, William, & Co., New York: Wall paper.

CLASS 69.—*Household and artistic furniture.*

- American Adjustable Folding Chair Company, 1144 Broadway, New York: Adjustable chairs and reading desks.
- American School Furniture Company, 111 Fifth avenue, New York: School furniture.

- Bicycle Step Ladder Company, 65 Randolph street, Chicago: Rolling store-service ladder for high shelving.
- Bierbrier, F. E., 22 East Fourteenth street, New York: Revolving bookcase.
- Brunswick-Balke-Collender Company, New York and Chicago: Billiard tables and accessories.
- Davenport, A. H., Washington street, Boston, Mass.: Furniture.
- Drake & Co., 359 Drake block, St. Paul, Minn.: Furniture in petrified wood.
- Ford, J. S., Johnson & Co., 1433-1437 Wabash avenue, Chicago: Chairs.
- Girard, C. C., & Cutler, M., 23 East Thirty-First street, New York: Carved and inlaid furniture.
- Globe-Wernicke Company, The, Cincinnati, Ohio: Patented "elastic" bookcases for libraries, etc.
- Hayden Company, 1 West Thirty-fourth street, New York: Banking-house furniture, colonial designs; modern show cases.
- Irving & Casson, Boston, Mass.: Show cases.
- Keyless Lock Company, Indianapolis, Ind.: Office desks, tables, and racks.
- Knipp, John C., & Bro., 121 and 123 North Howard street, Baltimore, Md.: Cases made of plain oak, for United States commission in mines, chemical industries, etc.
- Koch & Co., Theo. A., Chicago: Barbers' chairs.
- Meador Furniture Company, Cincinnati, Ohio: Show case.
- Mertz's Sons, Geo., Port Chester, N. Y.: United States façade department, heating and ventilation.
- Revell, Alexander H., & Co., Chicago: Store fixtures and show cases.
- Rockwell & Rupel, Chicago, Ill.: File cabinets.
- Smith, B. & W. B., New York: Show cases.
- Standard Furniture Company, Herkimer, N. Y.: Flat and roll-top office desks and filing cabinets.
- Standard Manufacturing Company, Pittsburg, Pa.: Bath tubs, water-closets, lavatory sinks, etc.
- Taft, Joseph H., 41 East Twentieth street, New York: Furniture; frieze upon the façade of the exhibit of petroleum.
- Wells, A. J., Manufacturing Company, Syracuse, N. Y.: Office furniture.
- Weston Paper and Manufacturing Company, Dayton, Ohio: Stationers' store fixtures.
- Widdicomb, John, Company, Grand Rapids, Mich.: Bedroom furniture.

CLASS 70.—*Carpets, tapestries, and fabrics for upholstery.*

- Baldwin Bros. & Co., 435 Fifth avenue, New York: Illuminated leather, hand-tooled.
- Bathamy Worsted Company: Carpets and rugs.
- Farr & Bailey Manufacturing Company, Camden, N. J.: Floor linoleum; plain and decorative burlaps for walls and ceilings.
- Hazzard, R. T., & Co., 814 Pine street, New York: Permanent decorations in burlaps.
- Ivins, Dietz, Metzger & Co., Philadelphia: Carpets and rugs.
- Northwestern Grass Twine Company, St. Paul, Minn.: American matting.
- Richter Manufacturing Company, Tenaflly, N. J.: Burlaps.
- Sloan, W. & J., New York: Carpets and tapestries.
- Taft, Joseph H., 41 East Twentieth street, New York: Upholstery of jute, leather, and embroidery.
- Wheeler, Mrs. Candace, 115 East Twenty-third street, New York: Decorative hangings.

CLASS 71.—*Upholsterers' decorations.*

- Annin & Co., 99 Fulton street, New York: Flags, etc.
- Lawrence, Stephen Brainard, 291 Fifth avenue, New York: Decorations for public buildings.

Singer Manufacturing Company, Broadway, New York: Embroidered bed coverings and hangings.

tewart Hartshorn Company, East Newark, N. J.: Self-acting window-shade rollers.

Taft, Joseph H., 41 East Twentieth street, New York: Upholsterers' decorations.

Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Decorative hangings.

CLASS 72.—*Ceramics.*

Adams, Miss Eva E., 2251 Kenmore avenue, Chicago: Decorated china.

American Clay Working Machine Company, Bucyrus, Ohio: Auger and sand mold brick machines, brick cutter, brick repress, dies, clay convey.

American Encaustic Tile Company, 1123 Broadway, New York: American mosaic and encaustic tile.

Amespaugh, Miss Vivian, 569 Bryan street, Dallas, Tex.: Decorated china.

Art Department of Newcomb College, E. Woodward, director, New Orleans, La.: Decorated china.

Asbury, Leonore, Cincinnati, Ohio: Pottery designs.

Atlan Club, 1741 York place, Chicago: Decorated china.

Aulich, F. B., Chicago: Decorated china.

Baisley, Mrs. Frank, 100 Rose street, Brooklyn, N. Y.: Decorated china.

Baker, Constance A., Cincinnati, Ohio: Pottery designs.

Beach, Martha Edwards, 469 Fairfield avenue, Bridgeport, Conn.: Decorated china.

Beebe, Miss Grace F., 2 Park square, Boston, Mass.: Decorated china.

Bischoff, Franz A., Detroit, Mich.: Decorated china.

Boyd, Miss Myra, Penn. avenue near Lang street, Pittsburg, Pa.: Decorated china.

Browning, Miss Elsie E., 4613 Filmore street, Pittsburg, Pa.: Decorated china.

Burrows, Miss M. E., 142 West One Hundred and Twenty-fifth street, New York: Decorated china.

Candler, Miss M. L., 6 Adams avenue, West Detroit, Mich.: Decorated china.

Chaussegros, Dr. Clement, Bridgeport, Conn., and Paris, France: Decorated china.

Cherry, Mrs. K. E., 2302 South Jefferson avenue, St. Louis, Mo.: Decorated china.

Cole, Miss Lillie E., 3824 Ellis avenue, Chicago: Decorated china.

Columbia Encaustic Tile Company, Anderson, Ind.: Mosaic tile.

Cowen, Louise, New York: Decorated china.

Coyn, Sally E., Cincinnati, Ohio: Pottery designs.

Crane, Mrs. Anna B., 11 Woodlawn park, Chicago: Decorated china.

Crook, Russell G., Boston, Mass.: Jungle Book tiles.

Cross, Mrs. Nellie A., 6525 Woodlawn avenue, Chicago: Decorated china.

Culp, Mrs. S. V., 219 Post street, San Francisco, Cal.: Over glaze decoration on china.

Daly, Matt. A., Cincinnati, Ohio: Pottery designs.

Damon, Miss A. L., Mill Hill avenue, Bridgeport, Conn.: Decorated china.

Dedham Pottery, Dedham, Mass.: Decorated china.

Dexter, Miss M. C., 96 Fifth avenue, New York: Decorated china.

Dibble, Miss Mabel C., 6235 Monroe avenue, Chicago: Decorated china.

Diers, E. G., Cincinnati, Ohio: Pottery designs.

Doremus, Mrs. Carolyn B., 77 West avenue, Bridgeport, Conn.: Decorated china.

Fairbanks, Ella A., 15 Wellington street, Boston, Mass.: Decorated china.

Fechheimer, Rose, Cincinnati, Ohio: Pottery designs.

Felton, Edith R., Cincinnati, Ohio: Pottery designs.

Ferris, Miss Ida, Fostoria, Ohio: Decorated china.

Field, Mrs. Charlotte E., 523 Throop avenue, Brooklyn, N. Y.: Decorated china.

Frackelton, Mrs. S. S., 695 Cass street, Milwaukee, Wis.: Decorated gray faience.

Frazee, Mrs. A. A., 4049 Indiana avenue, Chicago: Decorated china.

- Fry, Mrs. Marshall, 36 West Twenty-fourth street, New York: Decorated china.
- Fry, Marshall T., jr., 36 West Twenty-fourth street, New York: Decorated china.
- Girard, C. C., and Cutler, M., 23 East Thirty-first street, New York: Artistic pottery.
- Gordon, Mrs. Joseph H., 236 Dithridge street, Pittsburg, Pa.: Decorated china.
- Grueby Faience Company, 164 Devonshire street, Boston, Mass.: Works of faience.
- Grueby, H., Ashmont, Mass.: Enamels and kiln burner.
- Hammond, Mrs. Ida Story, Lake City, Minn.: Decorated china.
- Hanson, Jennie E., 58 Prince street, New Haven, Conn.: Decorated china.
- Harrison, Mrs. L. T., 6 Adams avenue, Detroit, Mich.: Decorated china.
- Healey, The Misses M. and E., Washington, D. C.: Decorated china.
- Holzer, Mrs. Philip, 1071 Iranistan avenue, Bridgeport, Conn.: Decorated china.
- Horloecher, Miss Leta, 28 East Twenty-third street, New York: Decorated china.
- Humphrey, Mrs. Edward L., 1741 York place, Chicago: Decorated china.
- Hurd, Harriet B., 304 Golden Hill, Bridgeport, Conn.: Porcelain miniature.
- Hurley, E. T., Cincinnati, Ohio: Designs for pottery.
- Irelan, Mrs. William, jr., Roblin Pottery, San Francisco, Cal.: Pottery.
- Johnson, Miss Ida A., 193 St. James place, Brooklyn, N. Y.: Decorated china.
- Keeler, Mrs. Charles, Paterson, N. J.: Decorated china.
- Keenan, Sophie Gaskill, 5550 Hays street, East End, Pittsburg, Pa.: Ceramic ivory miniature.
- Kendrick, George P., Brookline, Mass.: Designs in pottery.
- Laurence, Sturgis, Cincinnati, Ohio: Designs for pottery.
- Lavalle, John, Boston, Mass.: Moorish tiles designs.
- Lawson, Mrs. Adele V., 110 Fifty-third street, Chicago: Decorated china.
- Leonard, Anna B., 28 East Twenty-third street, New York: Decorated china.
- Leonard, Genevieve, 606 West One hundred and fourteenth street, New York: Decorated china.
- Leonard, Mrs. Harriet N., 6 Adams avenue, West Detroit, Mich.: Decorated china.
- Lindeman, Clara C., Cincinnati, Ohio: Designs for pottery.
- Long, Mrs. Marion W., 5338 Washington avenue, Chicago: Decorated china.
- McCreery, R. M., Marshall Field Building, Chicago: Decorated china.
- McDonald, W. P., Cincinnati, Ohio: Designs for pottery.
- McLaughlin, Miss M. Louise, 2558 Eden avenue, Mount Auburn, Cincinnati, Ohio: Decorated china.
- McLean, Mrs. Howard A., Colonial Building, West Sixty-sixth street, New York: Decorated china.
- McMaster, Miss Mary, 125 McDougal avenue, Detroit, Mich.: Decorated china.
- Marquard, Francis X., 206 West One hundred and twenty-eighth street, New York: Decorated china.
- Mason, Miss Elizabeth, 1672 Broadway, New York City: Decorated china.
- Mason, Miss M. M., 1672 Broadway, New York City: Decorated china.
- Mayhew, Mrs. Julia H., 14 Wellington street, Boston, Mass.: Decorated china.
- Montfort, Miss Helen E., 142 West One hundred and twenty-fifth street, New York: Decorated china.
- Mooreland, Mrs. W. C., jr., 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Morgan, Mrs. Ada White, 1326 Vine place, Minneapolis, Minn.: Decorated china.
- Nasmith, Mrs. Percy, 387 Baker street, Detroit, Mich.: Decorated china.
- National League of Mineral Painters, 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Neal, Fanny, 355 West Main street, Waterbury, Conn.: Decorated china.
- Neal, Mary Alley, 1435 Broadway, New York: Decorated china.
- Nourse, Mary, Cincinnati, Ohio: Designs for pottery.
- Ohr, George E., Biloxi Pottery, Biloxi, Miss.: Decorated china.
- Olcan, Felix, Zanesville, Ohio: Design in tile of American Encaustic Tile Company.

- Osbon, Mrs. E. A., Eighty-fifth street and Madison avenue, New York: Decorated china.
- Osgood, Mrs. Worth, 402 Madison street, Brooklyn, N. Y.: Decorated china.
- Overly, Laura B., 504 Pennsylvania avenue, Pittsburg, Pa.: Decorated china.
- Paist, Mrs. H. B., 608 Nicollet avenue, Minneapolis, Minn.: Decorated china.
- Patton, Miss Lena B., 439 Lafayette avenue, Detroit, Mich.: Decorated china.
- Peck, Miss Grace H., 3848 Elmwood place, Chicago: Decorated china.
- Perley, Mrs. M. E., 219 Post street, San Francisco, Cal.: Overglaze decoration.
- Phelps, Miss Pearle Wanita, 1281 Bergen street, Brooklyn, N. Y.: Decorated china.
- Phillips, Mrs. L. Vance, 36 West Twenty-fourth street, New York: Figure and portrait painting on china.
- Phillips, Miss Mary A., 4245 Indiana avenue, Chicago: Decorated china.
- Pierce, Miss E. M., 36 West One hundred and twenty-fifth street, New York: Decorated china.
- Post, Miss Cornelia S., Jersey City, N. J.: Decorated china.
- Prince, Mrs. M. F., 55 Bay Twentieth street, Bath Beach, N. Y.: Decorated china.
- Reed, Geneva, Cincinnati, Ohio: Designs for pottery.
- Robineau, Adelaide Alsop, 114 East Twenty-third street, New York: Decorated china and miniature.
- Rookwood Pottery Company, Cincinnati, Ohio: Underglaze decorated faience.
- Rothenbusch, F., Cincinnati, Ohio: Designs for pottery.
- Rowell, Mrs. Fanny, 95 Fifth avenue, New York: Decorated china.
- Sax, Sara, Cincinnati, Ohio: Designs for pottery.
- Schmidt, Charles, Cincinnati, Ohio: Designs for pottery.
- Sehon, A. D., Cincinnati, Ohio: Designs for pottery.
- Sessions, Mrs. F. M., 228 Fifty-fourth place, Chicago: Decorated china.
- Sharadui, H. W., 121 North Sixth street, Reading, Pa.: Decorated china.
- Shirayamadani, Kataro, Cincinnati, Ohio: Designs for pottery.
- Simmons, Harry E., 71 Murray street, New York: Decorated china.
- Sprague, Amelia B., Cincinnati, Ohio: Designs for pottery.
- Steinie, Carrie, Cincinnati, Ohio: Designs for pottery.
- Stewart, Mrs. Leroy F., 3400 Forest avenue, Chicago: Decorated china.
- Stewart, Mrs. Henry P., 77 Hamilton avenue, White Plains, N. Y.: Decorated china.
- Stiele, Mrs. Frederick, 3957 Ellis avenue, Chicago: Decorated china.
- Storer, Mrs. Maria Longworth, United States Legation, Madrid, Spain: Art pottery.
- Swift, Mrs. Caroline L., 144 Ruthven street, Roxbury, Mass.: Decorated china.
- Taylor, Mary A., 37 West Twenty-second street, New York: Mineral painting.
- Tiffany Glass and Decorating Company, New York: Designs for pottery.
- Toohy, Sallie, Cincinnati, Ohio: Designs for pottery.
- Topping, Miss Helen M., 4453 Berkeley avenue, Chicago: Decorated china.
- Trenton Potteries Company, Trenton, N. J.: Sanitary earthenware and vitrified china bath tubs and water-closets, etc.
- Trent Tile Company, Trenton, N. J.: Floor, wall, and ceiling tile.
- Valentien, Anna M., Cincinnati, Ohio: Designs for pottery.
- Valentien, A. R., Cincinnati, Ohio: Designs for pottery.
- Van Briggie, Artus, Cincinnati, Ohio: Designs for pottery.
- Volkmar, Charles, Corona, N. Y.: Decorated pottery.
- Wagner, Mrs. M. L., Detroit, Mich.: Decorated china.
- Walter, Mrs. W. C., 5625 Broad street, Pittsburg, Pa.: Decorated china.
- Wareham, J. D., Cincinnati, Ohio: Designs for pottery.
- Wilcox, Mrs. Olive, 1107 North Senate avenue, Indianapolis, Ind.: Decorated china.
- Willcox, Harriet E., Cincinnati, Ohio: Designs for pottery.
- Young, Grace, Cincinnati, Ohio: Designs for pottery.
- Zeublin, Mrs. Henrietta C., 6052 Kimbark avenue, Chicago: Decorated china.
- Zettle, Josephine E., Cincinnati, Ohio: Designs for pottery.

CLASS 73.—*Glass and crystal.*

- American Optical Company, Southbridge, Mass.: Optical goods.
 Bay State Optical Company, Attleboro, Mass.: Optical goods and machines for manufacturing same.
 Chambers, Inskeep & Co., 88-90 Wabash avenue, Chicago: Ophthalmometer.
 Holophane Glass Company, 1 Broadway, New York: Glass globes.
 Hygienic Optical Company, 1147 Broadway, New York: Optical goods.
 King, Julius, Optical Company, 2 Maiden lane, New York: Optical goods.
 Le Maitre Optical Company, 225 West Forty-second street, New York: Optical goods and machines for manufacturing same.
 Long, Adelaide Husted, 96 Fifth avenue, New York: Glass window.
 Lubin, S., Philadelphia, Pa.: Lenses.
 Manhattan Optical Company, New York: Spectacles.
 Neufeld, Emil M., 228 West One hundred and thirtieth street, New York: Lens-grinding machine, etc.
 New York Novelty Company, 907 Hancock street, Brooklyn, N. Y.: Imitations of precious stones.
 Pittsburg Plate Glass Company, 62 Vandam street, New York: Plate glass.
 Simmons, John, Company, Center street, New York: Optical goods.
 Spencer Optical Company, Center street, New York: Optical goods.
 Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Glass mosaic altars and altar furnishings; mausoleums and monuments.

CLASS 74.—*Apparatus and processes for heating and ventilation.*

- American Radiator Company, Boston, Mass.: Radiators, furnaces, etc.
 Ashton Valve Company, Boston, Mass.: Valves and registering apparatus.
 Barber, A. C., Manufacturing Company, Chicago: Oil stoves.
 Beckwith, P. D., Estate of, Dowagiac, Mich.: Heating stoves, "Round Oak."
 Board of schools, New York: Drawings, etc., illustrating the methods of heating and ventilating the public schools of the city of New York.
 Clark, George M., & Co., 72-74 Lake street, Chicago: Gas and gasoline cooking and heating stoves, ranges, etc.
 Cortland-Howe Ventilating Stove Company, Cortland, N. Y.: Stoves. Chicago, 1893, medal.
 Cox, Abram, Stove Company, Philadelphia, Pa.: Heating and cooking apparatus.
 Crane & Co., Chicago: Valves.
 Goodridge, Judson A., Company, New York: Steam specialties.
 Griswold Manufacturing Company, Erie, Pa.: Kitchen utensils, and oil heating stoves.
 Hart & Crouse Company, Utica, N. Y.: Steam and water heating boilers.
 Herendeen Manufacturing Company, Geneva, N. Y.: Water boilers, radiators, and valves.
 International Heater Company, New York and Utica, N. Y.: Heating boilers, stoves, etc.
 Kieley & Muler, Thirteenth street, New York: Valves, cocks, and damper regulator.
 The Lunkenheimer Company, Cincinnati, Ohio: Valves.
 Magee Furnace Company, Boston, Mass.: Cooking ranges, water heaters, combination warm-air and hot-water furnaces.
 Mahoney Manufacturing Company, Troy, N. Y.: Heating boilers.
 Michigan Stove Company, Detroit, Mich.: Heating stoves and ranges.
 Model Heating Company, Philadelphia, Pa.: Cast-iron sectional boilers, for low-pressure steam and hot-water heating.
 Mott, The J. L., Iron Works, New York: Steam boilers, hot-water heaters, steam and hot-water radiators.

New York Blower Company, Bucyrus, Ohio, and 39-41 Cortlandt street, New York: Heating and ventilating engines; blowers, fans, heaters.
 Philadelphia Hardware and Malleable Iron Works, Ninth and Jefferson streets, Philadelphia, Pa.: Radiators, registers, and malleable iron fittings.
 Phillips & Clark Stove Company, New York: Range.
 Powers Regulator Company, Chicago: Automatic temperature-regulating apparatus.
 Rochester Radiator Company, Rochester, N. Y.: Economical heating apparatus.
 Scaife, William B., & Sons, Pittsburg, Pa.: Ranges, boilers, and expansion tanks.
 Smith & Anthony, 48 Union street, Boston, Mass.: Range.
 Stevenson, Thomas Roberts, & Co., Philadelphia, Pa.: Stoves and ranges.
 Troy Nickel Works, Albany, N. Y.: Stove hardware.
 Tuttle & Bailey Manufacturing Company, 83 Beekman street, New York City: Registers and ventilators.
 Webster, Warren & Co., Camden, N. J.: Vacuum system of heating.
 Wade, Rufus R., State House, Boston, Mass.: Plans for heating public buildings.
 Wagner Manufacturing Company, Warren, Ohio: Kitchen utensils.

CLASS 75.—*Apparatus and methods, not electrical, for lighting.*

Adams, Thomas, jr., box 225, Brooklyn, N. Y.: Automatic gas lighters.
 Cassidy & Son Manufacturing Company, 133 West Twenty-third street, New York City: Gas and electric fixtures.
 Holophane Glass Company, 1 Broadway, New York: Globes, reflectors, shades, etc.
 Kitson, Arthur, Philadelphia, Pa.: Arc lamps giving an incandescent light from sprayed oil.
 Tiffany Glass and Decorating Company, 333 Fourth avenue, New York: Electric fixtures, favrile glass vases, tableware, globes, and shades.

GROUP XIII.—THREADS AND YARNS, FABRICS, GARMENTS.

CLASS 76.—*Materials and processes for spinning and rope making.*

McCormick Harvesting Machine Company, Chicago: Twine balling machine.

CLASS 77.—*Crompton & Knowles Loom Works, Worcester, Mass.: Looms.*

CLASS 78.—*Equipment and processes used in bleaching, dyeing, printing, and finishing textiles in their various stages.*

Troy Laundry Machinery Company, Limited, Chicago, Ill.: Photographs; samples of work done on machinery.
 American Wringer Company, Limited, New York: Wringers.

CLASS 79.—*Equipment and processes used in sewing and making wearing apparel.*

American Fashion Company, New York: Fashion plates.
 Boston Blacking Company, Boston, Mass.: Blackings, dressings, inks, cement, stains, and wax for boot and shoe manufacture.
 Fenwick, A. D., Machine Company, Boston, Mass.: Collar and cuff turning and pasting machine.
 Flag Manufacturing Company, 110 Lincoln street, Boston, Mass.: Julian sole rounder.
 Globe Buffer Company, Boston, Mass.: Globe scourer, Webster buffer, Webster cleaner, Columbus finisher, used in making shoes, etc.
 Hiebendahl, Miss E., 265 Sixth avenue, New York: Forms for displaying garments.
 The International Button-Hole Sewing Machine Company, Boston, Mass.: Sewing machines for making buttonholes.

- The McDowell Garment Drafting Machine Company, New York: Machines for drafting garments and patterns; system of dress cutting. Fashion journals.
- Mitchell, The John J., Company, 103 Fifth avenue, New York City: Fashions for men and women.
- Miller, O. A., Brockton, Mass.: Boot and shoe treeing and ironing machine.
- Naumkeag Buffing Machine Association, Beverly, Mass.: Naumkeag pneumatic buffer and emery pads, used in making shoes.
- New Home Sewing Machine Company, New York: Sewing machines for family use.
- The Norwich Nickel and Brass Company, Norwich, Conn.: Stands and hangers for displaying goods.
- The Standard Sewing Machine Company, Cleveland, Ohio: Sewing machines.
- Schmidt, Gustav, 438 Canal street, New York City: Wax figures.
- Singer Manufacturing Company, The, 149 Broadway, New York: Sewing machines for family use and for manufacturing purposes.
- Union Twin Edge Setter Company, 110 Lincoln street, Boston: Union twin-edge setter, used in making shoes.
- United Shoe Machinery Company, 111 Lincoln street, Boston: Shoe machinery in operation; making Goodyear welt and turn shoes.
- White Sewing Machine Company, Cleveland, Ohio: Sewing machines for family use.

CLASS 80.—*Threads and fabrics of cotton.*

- Aberfoyle Manufacturing Company, Chester, Pa.: Fabrics in woven colors, mercerized cotton goods, novelties in fancy goods, flannels.
- Hirsch (Joseph), Sons, New York City: Cotton linings.
- Lorraine Manufacturing Company, Pawtucket, R. I.: Fine cotton fabrics in woven colors.
- Pelzer Manufacturing Company, Pelzer, S. C.: Sheetings and drills.
- Potomska Mills Corporation, New Bedford, Mass.: Plain and fancy white cotton fabrics.
- Wamsutta Mills, New Bedford, Mass.: Fabrics of cotton.
- Whitman, Clarence, & Co., 39-41 Leonard street, New York City: Plain and fancy white cotton fabrics.

CLASS 81.—*Threads and fabrics of flax, hemp, etc.—Cordage.*

- Aultman, Miller & Co., Akron, Ohio: Binding twine.
- Columbia Cordage Company, Auburn, N. Y.: Binding twine and cordage.
- Deering Harvester Company, Chicago: Binding twine.
- McCormick Harvesting Machine Company, Chicago: Binding twine.
- Northwestern Grass Twine Company, St. Paul, Minn.: Binding twine, mats, carpet linings.
- W. B. Wiggins' Sons, Orange, N. J.: Burlap.

CLASS 82.—*Yarns and fabrics of wool.*

- Arlington Mills, Lawrence, Mass.: Worsted yarns, tops, and dress goods for women and children.
- Ballard Vale Mills, Ballardvale, Mass.: Flannels.
- Botany Worsted Mills, Passaic, N. J.: Fine woolen and worsted ladies' cloths.
- Hockanum Company, Rockville, Conn.: Fine woolen and worsted cloths.
- Lorraine Manufacturing Company, Pawtucket, R. I.: Worsted cloths.
- Muhlhauser, The F., Company, Cleveland, Ohio: Reclaimed wool.
- New England Company, The, Rockville, Conn.: Woolens, worsteds, and coatings.
- Peace Dale Manufacturing Company, Peacedale, R. I.: Fine worsted and woolen cloths, plaids for shawls, rugs, and capes.
- Springville Manufacturing Company, Rockville, Conn.: Woolens, worsteds, and coatings.
- Standish Worsted Company, Plymouth, Mass.: Fine worsted cloths.

CLASS 83.—*Silk and fabrics of silk.*

Anderson Brothers, Paterson, N. J.: Silk fabrics.
 Bridgeport Silk Company, Bridgeport, Conn.: Dress silks.
 Cardinal & Becker, 25 Greene street, New York, and Paterson, N. J.: Silk linings.
 Doherty & Wadsworth, 138-140 Spring street, Paterson, N. J.: Dress silks.
 Empire Silk Works, Paterson, N. J.: Fancy dress and tie silks.
 Johnson, Cowdin & Co., Paterson, N. J.: Ribbons.
 Liberty Silk Company, 469 Broome street, New York City: Fancy dress silks.
 Paterson Ribbon Company, Paterson, N. J., 85 Green street, New York City: Ribbons.
 Pelgram & Meyer, 113-117 Spring street, New York City: Dress silks and ribbons.
 Richardson Silk Company, Belding, Mich.: Sewing and embroidery silk.
 Smith & Kaufman, Paterson, N. J.: Ribbons.
 Stearns, John N., & Co., 68 Greene street, New York City: Black dress silk.
 Stern, Pohly & Herman, New York: Dress silks.

CLASS 84.—*Laces, embroideries, and trimmings.*

Adams, Fanny R., 302 Adelphi street, Brooklyn, N. Y.: Embroidered linen.
 Brady, Miss Florence H., 607 Macon street, Brooklyn, N. Y.: Embroidered linen.
 Castle Braid Company, Brooklyn, N. Y.: Braids.
 Carter, Miss Sybil, New York City: Indian handmade lace.
 Decorative Art Society of Baltimore, Md.: Embroidered linen.
 Emerson, Mrs. Harriet O., Brookline, Mass.: Embroidered linen.
 Foster, Mrs. A. W., 201 West One hundred and seventeenth street, New York City: Embroidered linen.
 Gotshall, Mrs. Adelaide R., New York: Embroidered linen.
 Gilchrist, Miss: Embroidered linen.
 Havens, Mrs. J. H., 107 Greene avenue, Brooklyn, N. Y.: Embroidered linen.
 Jaros, Mrs. J. N., New York: Lace tablecloth.
 McKane, Mrs. H. W., Plainfield, N. J.: Embroidered linen.
 Mingle, Mrs. J. C., 122 West Eighth street, Erie, Pa.: Embroidered linen.
 Nichols, Miss E. B., 312 West Twenty-second street, New York: Embroidered linen.
 Nolan, Miss H. Jennings, 189 Madison avenue, Albany, N. Y.: Embroidered linen.
 Obery, Mrs. Christine M., Portland, Oreg.: Embroidered linen.
 Taft, Joseph H., 41 East Twentieth street, New York City: Embroidery and applique curtains.
 Taylor, Mrs. E. Coxhead, 505 Sixth avenue, New York City: Embroidered linen.
 Waring, Mrs. C. E. Scott, Saratoga Springs, N. Y.: Embroidered linen.
 Wilson, Mrs. Lilian Barton, 728 Marcy avenue, Brooklyn, N. Y.: Embroidered linen.

CLASS 85.—*Industries producing wearing apparel for men, women, and children.*

Asch & Jaekel, New York City: Manufactured furs and skins.
 Merchant Tailors' National Exchange of the United States of America: Clothing to measure for men and women. Contributors:
 Twyeffort, E., 381 Fifth avenue, New York, hunting suit.
 Weiss, Jules C., & Co., 23 West Twenty-third street, New York, full dress suit.
 White, Howard & Co., Madison avenue, New York, garments.
 Dostal, A. R., Olive street and Broadway, St. Louis, Mo., garments.
 Glasscoe & Co., 52 West Thirtieth street, New York, lady's gown.
 Grady, M. E., Company, 109 Main street, Rochester, N. Y., garments.
 McCarthy, M. H., 120 Dearborn street, Chicago, flannel suit.
 Matthews, Albert, Champlain Building, Chicago, garments.
 Merwin, B. R., 425 Fifth avenue, New York, garments.
 Messenger & Jones, 388 Washington street, Boston, golf suit.

Merchant Tailors' National Exchange, etc. Contributors—Continued.

Schaub Brothers, Pioneer Press Building, St. Paul, Minn., automobile suit.

Muller, J. G., 240 Fifth avenue, New York, lady's hunting suit.

Nelson, Alfred, Company, Limited, 261 Fifth avenue, New York, shooting jacket, etc.

Schmidt, H. A., Seventh and Olive streets, St. Louis, Mo., frock suit.

Somers, Frank D., South Park, Boston, Mass., garments.

Patterson, John, & Co., 2 West Thirty-third street, New York, liveries.

Ryley, Rupert A., 256 Fifth avenue, New York, garments.

Schaub Brothers, 80 Monroe street, Chicago, garments.

Revillon Freres, New York City: Furs and fur garments.

CLASS 86.—*Various industries connected with clothing.*

American Hosiery Company, New Britain, Conn.: Underwear and hosiery for men, women, and children.

Auerbach, Louis, 836-838 Broadway, New York: Men's fine neckwear.

Banister, James A., Company, Newark, N. J.: Fine boots, shoes, and slippers for men, women, and children.

Bliss, L. C., & Co., 101-113 Summer street, Boston, Mass.; factory, Whitman, Mass.: The "Regal shoe" for men.

Canfield Rubber Company, The, Bridgeport, Conn.: Dress shields.

Cluett, Peabody & Co., Troy, N. Y.: "Monarch" fancy shirts made from fabrics produced by Aberfoyle Manufacturing Company, Chester, Pa.

Faunce & Spinney, Lynn, Mass.: Ladies' Goodyear welts, Goodyear turns, and McKay sewed boots and shoes.

Ford, Charles P., & Co., Rochester, N. Y.: Ladies', misses', and children's fine shoes.

Gale Shoe Manufacturing Company, Haverhill, Mass.: Ladies' McKay boots and slippers.

Hanan & Son, Brooklyn N. Y.: Men's and women's fine shoes.

Herrick, G. W., Company, Lynn, Mass.: Ladies', misses', and children's fine shoes.

Keith, George E., Company, Campello, Mass.: Men's fine shoes.

Laird, Schober & Co., Philadelphia, Pa.: Ladies', misses', and children's fine shoes.

Meyers, Louis, & Sons, 552-554 Broadway, New York: Gloves and glove leather.

Milford Shoe Company, Milford, Mass.: Men's machine-sewed and Goodyear welt shoes.

Noyes, Read & Co., Haverhill, Mass.: Ladies' McKay sewed and turned boots and shoes.

Perkins, Linscott & Co., Rochester, N. H.: Men's sewed and Goodyear welt shoes.

Roelofs, Henry H., & Co., Philadelphia, Pa.: Soft and stiff fine fur felt hats for men and women.

Stetson, John B., Company, Philadelphia, Pa.: Men's soft and stiff fine fur felt hats, ladies' fine fur felt hats; silk and cassimere dress hats.

Torrey, Curtis & Tirrell, North Weymouth, Mass.: Men's fine shoes,

Wichert & Gardiner, Brooklyn, N. Y.: Ladies' turned and Goodyear welt boots and shoes.

The Warnock Uniform Company, 19 and 21 west Thirty-first street, New York City: Uniform caps.

GROUP XIV.—CHEMICAL INDUSTRIES.

CLASS 87.—*Chemical and pharmaceutical arts.*

EQUIPMENT, PROCESSES, AND PRODUCTS.

American Supply Company, New York City: Putz cream (metal polish).

Arable Cement Company, New York: Tableting cement used by printers and bookbinders.

- Armour & Co., Chicago: Inedible animal products, bone and its products, etc.
- Armour Packing Company, Kansas City, Mo.: Inedible animal products, horns, hoofs, bones, fertilizers.
- Atlantic Refining Company, Philadelphia, Pa.: Petroleum and products.
- Babbitt, B. T., 82 Washington street, New York: Soaps, glycerines, potash, and by-products.
- Battle & Co., St. Louis, Mo.: Bromidia and eethol.
- Bean-Chamberlain Manufacturing Company, Hudson, Mich.: Bean whitewashing and coating machine.
- Binney & Smith, 257 Pearl street, New York: Carbon gas blacks, lamp or oil blacks, "Peerless" black.
- Blichert, The P. A., Manufacturing Company, 57 Illinois street, Chicago: Shoe polishes.
- A. R. Bremer & Co., 21 Lasalle street, Chicago: Coke Dandruff Cure.
- Burbank Engraving Company, 55 Olive street, Boston, Mass.: Embossing composition.
- Cuprigraph Company, The, 108 North Green street, Chicago: The sanitary still, producing pure aerated distilled water.
- Drevet Manufacturing Company, The, 59 Prince street, New York: Charles Marchand's medicinal preparation.
- Fiske Brothers Refining Company, New York: Lubricating oils for steam engines and all kinds of machinery.
- Foederer, Robert H., Philadelphia, Pa.: Shoe dressings.
- Freck, The Wm., Company, 120 South Clinton street, Chicago: Pharmaceutical and chemical machinery and devices.
- Genesee, D., Baltimore, Md.: Pharmaceutical machinery.
- Jandus, William, 37 Tilden avenue, Cleveland, Ohio: Water filters.
- Kutnow, S., & Bro., New York City: Effervescent Carlsbad salts.
- Lambert Pharmacal Company, 2101 Locust street, St. Louis, Mo.: Listerine.
- Lawrence, W. W., & Co., Pittsburg, Pa.: Paints and machinery.
- Leonard & Ellis, 11 Broadway, New York: Machinery oils.
- Matheson, William J., & Co., Limited, 182-184 Front street, New York: White lead.
- Michigan Carbon Works, Detroit, Mich.: Gelatines and glues.
- Muralo Company, The, New Brighton, N. Y.: Decorative materials.
- Muzzy Brothers, Paterson, N. J.: Aquarine cold-water paints. Weatherproof and fireproof.
- Roberts & Co., St. Louis, Mo.: Antikamnia.
- Russia Cement Company, Gloucester, Mass.: Fish glues. Le Page's liquid glue for general use, and Le Page's photo-engraving glue.
- Seabury & Johnson, 59-61 Maiden lane, New York: Medicinal and surgical plasters, surgical dressings, specialties.
- Sen-Sen Company, Rochester, N. Y.: Cachou Sen-Sen and chewing gum.
- Solar Refining Company, Lima, Ohio: Petroleum and by-products.
- Standard Oil Company, 26 Broadway, New York: Petroleum and by-products.
- Swift & Co., Chicago: Inedible animal products.
- Thomsen Chemical Company, Baltimore, Md.: General chemicals.
- Tripler Liquid Air Company, 121 West Eighty-ninth street, New York: System for liquefying air—processes and products.
- Universal Silver Polish Company, Denver, Colo.: Metal polish.
- Valentine & Co., 57 Broadway, New York: Coach and car varnishes and colors. Pure colors in oil. Artists' oil colors in tubes. Enamels.
- Warner, William R., & Co., Philadelphia, Pa.: Pills and pharmaceutical products.

CLASS 88.—*Manufacture of paper.*

RAW MATERIALS, EQUIPMENTS, PROCESSES, AND PRODUCTS.

Crane Brothers, Westfield, Mass.: Linen ledger and record papers.

CLASS 89.—*Leather and skins.*

RAW MATERIALS, EQUIPMENT, PROCESSES, AND PRODUCTS.

- Blatz, F. J., & Bros., Elizabeth, N. J.: Glazed kid from goat, calf, and sheep.
 Dungan, Hood & Co., Incorporated, Philadelphia, Pa.: Glazed kids.
 Foederer, Robert H., Philadelphia, Pa.: Tanned leather from goat and calf skins.
 Glazed kid of chrome tannage, known as vici kid.
 Green, Calvin, & Son, Saltillo, Tex., and Lewiston, Pa.: North American and Saltillo (Tex.) oak sole leather. Texas oak sole, cropped sides and bends.
 Hollinger, Amos, Lancaster, Pa.: Finished oak harness leather in backs.
 Leas & McVitty, 307 North Third street, Philadelphia, Pa.: Oak leather and cut soles. Oak belting butts, backs, and bends.
 Salem Tanning Company, Salem, Va.: Chestnut oak-bark leather, in rough and prepared for use.
 Scherer, Oscar, & Bro., 29 Spruce street, New York; Glazed fancy colors and black chrome kids.
 Slocomb, F. F., & Co., Wilmington, Del.: Leather staking machine. Leather stamping machine.
 Vacuum Oil Company, Rochester, N. Y.: Leather oils and greases.
 Vaughn Machine Company, Boston, Mass.: Leather staking machine.
 Wagner Leather Company (California Commission), Stockton, Cal.; Finished hides; pelts, and skins.
 Woodside Patent Calf Manufacturing Company, The, Newark, N. J.: Patent calf leather.

CLASS 90.—*Perfumery.*

RAW MATERIALS, EQUIPMENT, PROCESSES, AND PRODUCTS.

- Bremer, A. R., Company, 21 La Salle street, Chicago: Coke dandruff cure.
 Colgate & Co., 55 John street, New York: Perfumery, toilet soaps, and accessories.
 Cream of Lemon Company (California Commission), Los Angeles, Cal.: Cream of lemon.
 Hotchkiss, The H. & G., International Prize Medal Essential Oil Company, Lyons, N. Y.: American essential oils.
 Kochs, Theo. A., Company, 158 Wells street, Chicago: Barbers' chairs.
 Reiger, Paul, & Co. (California Commission), San Francisco, Cal.: Flavoring extracts and perfumes.
 Sen-Sen Company, Rochester, N. Y.: Cachou Sen-Sen and chewing gum.
 Webb, Mrs. L. T. (California Commission), Los Angeles, Cal.: Toilet soaps.
 Williams, The J. B., Company, Glastonbury, Conn.: Shaving and toilet soaps.

CLASS 91.—*Tobacco and matches.*

EQUIPMENT, PROCESSES, AND PRODUCTS.

- Baltimore Leaf Tobacco Association, Baltimore, Md.: Leaf tobacco.
 Bimberg, Joseph, Elmira, N. Y.: Leaf tobacco.
 Blumenstiel, Levi & Co., New York: Porto Rican tobacco.
 Brown, Morris, 335 Broadway, New York: Patented cigar box.
 Cincinnati Leaf Tobacco Warehouse Company, Cincinnati, Ohio: Tobacco, "White Burley," for pipe smoking.
 Clark, M. H., & Bros., Clarksville, Tenn.: Tobaccos.
 Clay, Henry, & Bock & Co., Limited, 32 Broadway, New York City: Clear Havana cigars.
 Cullman Brothers, New York: Tobaccos grown in Ohio—Zimmer, Spanish, and Little Dutch; wrappers, binders, and fillers grown in Wisconsin and Pennsylvania.
 Cunningham, Col. John S., Cunningham, N. C.: Tobaccos grown in North Carolina—bright, mahogany, and dark.

- Cytron, Otto, 202 North Main street, Los Angeles, Cal.: Manufactured tobacco; cigar novelties.
- Department of Agriculture, U. S. A., Division of Soils, Washington, D. C.: Collective exhibit of leaf tobacco grown in the United States.
- Dibrell Brothers, Danville, Va.: Bright, mahogany, and dark Virginia leaf tobacco.
- Florida Havana Company, Quincy, Fla.: Tobacco, Cuban and Sumatra seed, grown in Florida.
- Hagan-Dart Tobacco Company, Richmond, Va.: Dark export types of Virginia leaf tobacco.
- Havana Commercial Company, 32 Broadway, New York: Cigars.
- Hoge, Irwin & Co., Winston, N. C.: Tobacco, bright and mahogany, for export.
- Jordan, J. F., Greensboro, N. C.: Tobacco, leaf, bright and mahogany, grown in North Carolina.
- Littman, Felix, Quincy, Fla.: Sumatra and Cuban tobaccos.
- Louisville Leaf Tobacco Exchange, Louisville, Ky.: "White Burley" and dark tobacco grown in Kentucky.
- Manhattan Brass Company, New York: Brass castings and railings for tobacco manufacturing machinery.
- Miller, Du Brul & Peters Manufacturing Company, The, 511 East Pearl street, Cincinnati, Ohio: Machinery for manufacturing cigars and cigarettes; cigarmakers' molds and tools.
- Morris, E. K., & Co., Cincinnati, Ohio: Bar iron and steel for tobacco manufacturing machinery.
- Morris, J. B., Foundry Company, Cincinnati, Ohio: Iron castings for tobacco manufacturing machinery.
- Owl Commercial Company, Quincy, Fla.: Tobacco grown in Gadsden County, Fla.
- Spiller & Robinson, Ada, Tex.: Cuban seed tobacco grown in Texas.
- Strauss, L. L., Richmond, Va.: Bright and dark types of Virginia tobacco.
- Surbrug Company, The, New York: Manufactured tobaccos.
- Sutter Brothers, 174-176 Pearl street, New York City: Cigar wrapper, binder, and filler grades of tobaccos grown in Wisconsin, Ohio, Connecticut, and Pennsylvania.
- Texas Tobacco Growers' Association, Houston, Tex.: Texas tobaccos.
- United States Tobacco Company, Richmond, Va.: Leaf, plug, and fine-cut tobacco in process of manufacture.
- Veitor, E. K., & Co., Richmond, Va.: Light, mahogany, and dark tobaccos grown in Virginia.
- Wilkins, W. A., Winston, N. C.: Bright tobacco grown in North Carolina.
- Williamson, T. S., & Co., Danville, Va.: Bright, mahogany, and dark Virginia leaf tobacco.

GROUP XV.—DIVERSIFIED INDUSTRIES.

CLASS 92.—*Stationery—Machinery, processes, and products.*

- American Lead Pencil Company, New York: Lead pencils.
- Blair Fountain Pen Company, 163 Broadway, New York: Fountain pens and fluid pencils. Ink of all colors and for copying.
- Caw's Pen and Ink Company, 168 Broadway, New York: Fountain pens and writing inks.
- Crane Brothers, Westfield, Mass.: Linen ledger and record papers.
- Hinde & Dauch, 12 White street, New York: Climan bottle wrappers, made of sized paper.
- Inman American Box Machine Company, Amsterdam, N. Y.: Paper-box manufacturing machinery.
- National Cash Register Company, Dayton, Ohio: Cash registers.
- Neostyle Envelope Company, New York: Envelope machine.
- Pomeroy Brothers, East Newark, N. J.: Inks, mucilage, sealing wax, rubber stamps, etc.

- Smith, R. H., Manufacturing Company, Springfield, Mass.: Easy sign markers and office stamps.
- Tenny, J. F., & Co., Chicago: Rubber stamps.
- Tiffany & Co., Union Square, New York: Stationery; steel, copper-plate, and intaglio printing.
- Union Bag and Paper Company, Chicago, Ill.: Paper bags.
- United States Playing Card Company, Cincinnati, Ohio: Playing cards.
- Waterman, L. E., Company, New York: Fountain pens.
- Weston Paper and Manufacturing Company, Dayton, Ohio: Paper specialties and stationery.
- Whiting Paper Company, Holyoke, Mass., and New York: Writing papers, envelopes, and novelties.

CLASS 93.—*Cutlery—Equipment, processes, and products.*

- American Shearer Manufacturing Company, Nashua, N. H.: Hair clippers.
- Brown & Sharpe, Providence, R. I.: Hair clippers.
- Gem Cutlery Company, 670 Hudson street, New York: Gem safety razor.
- Jordan, A. J., St. Louis, Mo.: Safety razors.
- Peck & Snyder, 126 Nassau street, New York: Ice and roller skates.
- Tiffany & Co., Union Square, New York: Silversmiths' small ware.

CLASS 94.—*Silversmiths' and goldsmiths' ware—Appliances, processes, and products.*

- Alvin & Co., New York: Silver-mounted pattern.
- Attleboro Jewelry Company, Attleboro, Mass.: Jewelry.
- Gorham Manufacturing Company, Broadway and Nineteenth street, New York: Silver and gold smiths' ware.
- Sandberg, F. W., Oakpark, Chicago: Gold and silversmiths' work, done wholly with the hammer.
- Taylor, S. S., Hartford, Conn.: Burnishing tools.
- Tiffany & Co., Union Square, New York: Gold and silver smiths' ware, enameled work, etc.

CLASS 95.—*Jewelry—Equipment, processes, and products.*

- Attleboro Manufacturing Company, Attleboro, Mass.: Jewelry and novelties.
- Azure Mining Company, 172 Broadway, New York: Turquoises, cut and rough, and turquoise jewelry.
- Barber Jewelry Company, 36 Gold street, New York: Pyrites jewelry and alligator teeth.
- Klapp, Mrs. Wm., The Plaza, Chicago, Ill.: Jewelry.
- Rider, S. A., Jewelry Company, 705 Washington street, St. Louis, Mo.: Jewelry and fancy goods.
- Sandberg, F. W., Oak Park, Chicago, Ill.: Metal work done wholly with the hammer.
- Tiffany & Co., Union Square, New York: Fine jewelry and jewelry set with precious stones; lapidary work; cut and uncut semiprecious stones.

CLASS 96.—*Clock and watch making—Equipment, processes, and products.*

- Automatic Electric Clock Company, 231 South Canal street, Chicago: Automatic electric clocks.
- Brandt-Dent Company, Watertown, Wis.: Cash register.
- Bundy Manufacturing Company, Binghamton, N. Y.: Time recorders (clocks).
- Chicago Time Register Company, Chicago: Time registers, clocks.
- Ingersoll, Robert H., & Bros., 67 Cortlandt street, New York: Watches and specialties.
- International Computing Machine Company, Chicago: Comptometer.

CLASS 97.—*Works of art in bronze, cast iron, and wrought iron, repoussé work.*

- Ames, Mrs., Baltimore, Md.: Works of art in bronze.
 Baur, Theodore, New York: Works of art in bronze.
 Bissell, George E., 30 East Fourteenth street, New York: Works of art in bronze.
 Bitter, Karl, Weehawken, N. J.: Works of art in bronze.
 Bonnard, Henry, Bronze Company, 430 West Sixteenth street, New York: Castings in bronze and other metals.
 Boyle, J. J., Watt street, Philadelphia, Pa.: Works of art in bronze.
 Bracken, Julia M., Studio Building, Chicago: Works of art in bronze.
 Frolich, F. H., 1321 Broadway, New York: Works of art in bronze.
 Hondon, Jean Antoine, New York: Works of art in bronze.
 Linder, H., 44 West Thirtieth street, New York: Works of art in bronze.
 Lopez, Charles, 249½ East Thirteenth street, New York: Works of art in bronze.
 Moretti, G., 118 West Thirty-eighth street, New York: Works of art in bronze.
 Remington, F., 301 Webster avenue, New Rochelle, N. Y.: Works of art in bronze.
 Sandberg, F. W., Oak Park, Chicago: Works of art in gold and silver, made wholly with the hammer.
 Storek, George H., 123 Fifth avenue, New York: Works of art in bronze.
 Storer, Mrs. Maria Longworth, United States legation, Madrid, Spain: Works of art in bronze.
 Tiffany & Co., Union Square, New York: Works of art in bronze and iron; repoussé work.
 Tiffany Glass and Decorating Company, 333 Fourth avenue, New York City: Tablets and bronzes.
 Toberentz, R., New York: Works of art in bronze.
 Vonnah, Bessie Potter, New York: Works of art in bronze.
 Ward, J. A., 119 West Fifty-second street, New York: Works of art in bronze.
 Winans, Walter, Surrenden Park, Ashford, Kent, England, and New York: Works of art in bronze.
 Winslow Bros., Chicago: Works of art in bronze.
 Wuertz, E., New York: Works of art in bronze.

CLASS 98.—*Brushes, fine leather articles, fancy articles, and basket work.*

- Barnard, George, & Co., 212 Vanderbilt Building, New York: Leather goods.
 Bissell Carpet Sweeper Company, Grand Rapids, Mich.: Carpet sweepers.
 Brunswick-Balke-Collender Company, New York and Chicago: Articles in ivory.
 Gorham Manufacturing Company, Broadway, New York: Fine leather articles, with mountings of gold and silver.
 Grasman & Gerlach, Jacksonville, Fla.: Leather goods.
 Howard's, S. E., Son, & Co., Boston, Mass.: Razor strops.
 Jordan, A. J., St. Louis, Mo.: Strops; wood and other cases.
 Los Angeles Art Leather Company, Los Angeles, Cal.: Leather specialties.
 Tibbe, H., & Son, St. Louis, Mo.: Corncob pipes.
 Tiffany & Co., New York: Fine leather articles, dressing cases, bags, pocketbooks, portfolios, cigar and cigarette cases.
 Young & Robinson, Pullman Building, Chicago: Machine for making brushes.

CLASS 99.—*India-rubber and gutta-percha industries—Equipment, processes, and products.*

- American Wringer Company, 99 Chambers street, New York: Clothes wringers.
 Arawani Mills, I. E. Palmer, proprietor, Middletown, Conn.: Hammocks.
 New Departure Trunk Company, Sumner street, Boston, Mass.: Patent trunks.
 Weston Paper and Manufacturing Company, Dayton, Ohio: Combined chair and hammock.

CLASS 100.—*Toys.*

- Barnard, George, & Co., 212 Vanderbilt Building, New York: Sporting goods.
 Crawford, McGregor & Canby, Dayton, Ohio: Golf clubs.
 Peck & Snyder, 126 Nassau street, New York: Ice and roller skates for hockey, polo, la crosse, etc.
 United States Playing Card Company, Cincinnati, Ohio: Games.
 Spalding, A. G., & Bro., Nassau street, New York: Implements used in athletic sports.
 Spaulding Manufacturing Company, Chicago, Ill.: Sporting goods in wood.
 Wright & Ditson, Boston, Mass.: Lawn tennis goods.

GROUP XVI.—SOCIAL ECONOMY, HYGIENE, PUBLIC CHARITIES.

CLASS 101.—*Apprenticeship—Protection of child labor.*

- Department of social economy, United States Commission to Paris: Maps, charts, plans, photographs, and publications.
 Labor statistics, bureau of, State of Massachusetts: Charts showing changes in laws in relation to child labor.
 Lowell Textile School, Lowell, Mass.: Catalogues; photographs of building.
 New Bedford Textile School, New Bedford, Mass.: Catalogues; photographs of buildings.

CLASS 102.—*Wages—Industrial remuneration—Profit sharing.*

- Department of social economy, United States Commission to Paris: Maps, charts, plans, photographs, books, and pamphlets.
 Gilman, N. B., Meadville, Pa.: Monograph on cooperation and profit sharing.
 Willoughby, William Franklin, Washington, D. C.: Monograph on economic institutions.

CLASS 103.—*Large or small industries—Cooperative associations for production or for obtaining credit—Trade unions.*

- Alabama Handbook.
 Aluminum World, 218 William street, New York: Publications.
 American Bee Journal, 18 Michigan street, Chicago: Publications.
 American Building Association News, New York: Report of proceedings.
 American Federationist.
 American Federation of Labor, Washington, D. C.: Statistics, reports, publications.
 American Investments, 202 Main street, Buffalo, N. Y.: Publication.
 American Lumberman, Manhattan Building, 315 Dearborn street, Chicago: Publications.
 American Manufacturer and Iron World, Pittsburg, Pa.: Publications.
 American Newspaper Reporter.
 American Shipping Blue Book.
 American Sick Journal.
 Arizona Lumber and Timber Company, Flagstaff, Ariz.: Photographs.
 Atchison, Topeka and Santa Fe Railroad, Chicago: Publications.
 Ayer, N. W., & Co., Times Building, Philadelphia, Pa.: Newspaper directory.
 Bangor and Aroostook Railroad, Bangor, Me.: Pamphlets and photographs.
 Bank commission of Maine.
 Bank commissioners, New Hampshire board of, Concord, N. H.: Reports.
 Banking, commissioner of, Pennsylvania, Philadelphia, Pa.: Reports.
 Bank report (California).
 Blacksmith and Wheelwright.
 Board of arbitration, Connecticut State, Hartford, Conn.: Reports; statistics.
 Board of arbitration, Illinois State, Springfield, Ill.: Reports; statistics.
 Board of arbitration, Indiana State, Indianapolis, Ind.: Reports; statistics.
 Board of arbitration, Massachusetts State, Boston, Mass.: Reports; statistics.

- Board of arbitration, New York State, Albany, N. Y.: Reports; statistics.
 Board of arbitration, Ohio State, Columbus, Ohio: Reports; statistics.
 Board of arbitration, Wisconsin State, Madison, Wis.: Reports; statistics.
 Board of Trade, Chicago: Reports.
 Board of Trade, Lynchburg, Va.: Pamphlets; photographs.
 Board of Trade, Tampa, Fla.: Photographs.
 Board of Trade, Washington, D. C.
 Boyd's Directory, 1 vol.
 Brotherhood of Locomotive Engineers, Cleveland, Ohio: Publications.
 Brown's Gas Directory, New York.
 Building and Loan Association, California, Sacramento, Cal.: Reports of proceedings.
 Building and Loan Association, Iowa.
 Building and Loan Association, Louisiana State League, Baton Rouge, La.: Documents, etc.
 Building and Loan Association, Metropolitan League of New York, N. Y.: Documents, etc.
 Building and Loan Association, Nebraska.
 Building and Loan Association, Ohio.
 Building and Loan Associations, Illinois State League, Springfield, Ill.: Documents.
 Building and Loan Associations, Indiana State League, Indianapolis, Ind.: Documents, etc.
 Building and Loan Associations, Massachusetts State League, Boston, Mass.: Documents, etc.
 Building and Loan Associations, Michigan State League, Lansing, Mich.: Documents, etc.
 Building and Loan Associations, Missouri State League, Jefferson City, Mo.: Documents, etc.
 Building and Loan Associations, National League of, Washington, D. C.: Documents, etc.
 Building and Loan Associations, Wisconsin State League, Madison, Wis.: Documents, etc.
 Building and loan commission of New York, N. Y.: Reports.
 Bureau of American Republics, Washington, D. C.: Commercial directory.
 Bureau of labor commissioner, Kansas.
 Bureau of Labor Commissioner, Washington.
 California Paris Exposition commission, San Francisco, Cal.: Photographs.
 Chamber of Commerce, Los Angeles.
 Chicago Dry Goods Reporter, 233 Fifth avenue, Chicago: Publications.
 Chicago Northwestern Railway: Photographs, charts, portfolio.
 Chicago Record, Chicago: Photographs.
 China, Glass, and Pottery World.
 Cluett, Peabody & Co., 433 River street, Troy, N. Y.: Photographs.
 Columbus Face Brick Company, Columbus, Ohio: Photographs; sample of products.
 Commissioner of agriculture, Louisiana State, Baton Rouge, La.: Publications.
 Confectioner's Journal, 209 South Sixth street, Philadelphia: Publication.
 Construction News, Chicago.
 Cutting, Upholstering, and Jobbing Trade.
 Davidson Publishing Company, 401 Broadway, New York: Publications.
 Deering Manufacturing Company, Chicago.
 De La Mar's Mercur Mines Company, Mercur, Utah: Photographs.
 Department of social economy, United States Commission to Paris Exposition: Maps, charts, plans, photographs, books, pamphlets.
 Director of the Mint.
 Dockham, C. A., & Co., 131 Devonshire street, Boston, Mass.: Directory, Dockham's Textile Manufacturer.

- Dungan, Hood & Co., Philadelphia, Pa.: Photographs.
 Earl & Wilson, Troy, N. Y.: Photographs.
 Engineering News Publishing Company, 220 Broadway, New York: Publications.
 Express Gazette, Cincinnati, Ohio: Publications.
 Factory News: Laycock Manufacturing Company, Indianapolis.
 Farm Implement News, Masonic Temple, Chicago: Publication.
 Farm Machinery (Midland Publishing Company, St. Louis).
 Flickenger, J. H., & Co., San Jose, Cal.: Photographs.
 Foresters of America, Brooklyn, N. Y.: Reports, etc.
 Fostoria Glass Company, Moundsville, W. Va.: Photographs.
 Furniture Commercial Red Book.
 Furniture Worker, 126 Longworth street, Cincinnati, Ohio: Publications.
 Glass and Pottery World Company, 21 Quincy street, Chicago: Publication.
 Granite, 131 Devonshire street, Boston, Mass.: Publication, photographs.
 Hendrick's Architectural Directory, New York.
 Herald Publishing Company, Steubenville, Ohio: Photographs.
 Hires Turner Glass Company, 626 Arch street, Philadelphia, Pa.: Photographs.
 Hocking Valley Railroad, Columbus, Ohio: Photographs.
 Hotel Monthly, 325 Dearborn street, Chicago: Publication.
 Hotel Red Book and Directory Company, Grand Union Hotel, New York: Directory.
 Howe Addressing Company, 208 South Fourth street, Philadelphia, Pa.: Publications.
 Illinois Steel Company, Rookery, Chicago: Photographs.
 Ingersoll-Sergeant Drill Company, 26 Cortlandt street, New York City: Photographs.
 Inland Printer Company, 212 Monroe street, Chicago: Publications; photographs.
 Iron and Steel Association, Philadelphia.
 Iron Moulders' Journal.
 Iron Trade Review, Cleveland, Ohio: Publication.
 Jones, Edward D., Madison, Wis.: Monographs: Resources and Industries; the Country and the People of the United States.
 Labor statistics of Maine.
 Laird, Norton & Co., Winona: Photographs.
 Link Belt Engineering Company, Philadelphia, Pa.: Photographs.
 Locomotive Engineers, Brotherhood of, Cleveland, Ohio: Publications.
 Locomotive Fireman's Magazine, Peoria, Ill.: Publications.
 "Lumber:" Poole Mining Directory.
 Lumber Trade Journal, 18 Broadway, New York: Publications.
 Lyon, Robert P., 416 Broadway, New York: Directory, Lyon Reference Book.
 Macallar Parker Company, 398-400 Washington street, Boston, Mass.: Photographs of their clothing manufacturing workshops.
 Maine Railroad Commission.
 Manhattan Storage and Warehouse Company, Lexington avenue and Forty-second street, New York City: Photographs.
 Manufacturers' Record, Baltimore, Md.: Publication.
 Merritt & Chapman Derrick and Wrecking Company, 27 William street, New York City: Photographs.
 Meyer Brothers' Druggist, St. Louis, Mo.: Publication.
 Michigan Board of Agriculture.
 Michigan Horticultural Society.
 Michigan Reports.
 Missouri Geological Survey.
 Missouri Lumber and Mining Company, Granden, Mo.: Photographs.
 Missouri Pacific Railway Company: Portfolio of views.
 Moran Brothers, Seattle: Photographs.

- National Laundry Journal, Dowst Brothers, Chicago.
 Northwestern Miller, Minneapolis, Minn.: Publications.
 Orange Judd Company, Springfield, Mass.: Photographs.
 Ores and Metals, Denver, Colo.: Publications.
 Philadelphia Commercial Museum, Philadelphia, Pa.: General exhibit.
 Philadelphia Trades League: Portfolio.
 Post, L. D., 108 Fulton street, New York: Publication.
 Power, World Building, New York: Publication.
 Powers, E. L., Company, 150 Nassau street, New York: Publications.
 Railway Age, Monadnock Block, Chicago: Publication.
 Remington Standard Typewriter, New York: Photographs.
 Review and Herald Publishing Company, Battle Creek, Mich.: Photographs.
 Riley Brothers, 16 Beekman street, New York: Views of large and small industries.
 Rookwood Pottery Company, Cincinnati, Ohio: Photographs.
 Rutland Railroad Company, Rutland, Vt.: Publications.
 Schieren, Charles A., & Co., 45-50 Ferry street, New York City: Photographs.
 Sheffield Car Company, Three Rivers, Mich.: Photographs.
 Shoe and Leather Reporter, 17 Spruce street, New York: Directory Shoe and Leather Reporter Annual.
 Singer Manufacturing Company, 149 Broadway, New York: Photographs.
 Skinner, Frank W., 100 William street, New York: Photographs of large industrial undertakings.
 Southern Railway Company, Washington, D. C.: Photographs; publications.
 Spice Mill: Publications.
 Standard Varnish Works, 29 Broadway, New York: Photographs.
 Starch room, Cincinnati, Ohio: Publications and photographs.
 Steinmeyer, William, & Co., 316-320 Third street, Milwaukee, Wis.: Photographs.
 Stone, 705 Pontiac Building, Chicago: Photographs.
 Studebaker Brothers Manufacturing Company, South Bend, Ind.: Photographs.
 Sugar Beet, Philadelphia, Pa.: Publications.
 Telephone Magazine, Marquette Building, Chicago: Publication.
 Texas Farm and Ranch, Dallas, Tex.: Publication.
 Textile Publishing Company, 78-80 Walker street, New York City: Publication.
 The Tailor, Bloomington, Ill.
 The Upholsterer.
 Thompson Reporting Company, Boston Mass.: Directory of piano manufacturers.
 Tin and Terne and the Metal World, 53 Ninth street Pittsburg, Pa.: Publication.
 Tobacco Leaf Publishing Company, 96 Maiden Lane, New York City: Publication.
 Torrens land system, Chicago.
 Trigg, William R., & Co., Richmond, Va.: Photographs.
 Triumph Ice Machine Company, Cincinnati, Ohio: Photographs.
 United States Census (Mineral Industries).
 Vermont Marble Company, Proctor, Vt.: Photographs.
 Wall Paper News.
 Ware Brothers, Philadelphia, Pa.: Publication; Carriage Monthly.
 Westinghouse Company, Pittsburg, Pa.: Photographs.
 Wholesale Grocers' Directory.
 Willoughby, W. F., Washington, D. C.: Monograph on industrial arbitration and conciliation.
 Winslow Brothers Company, The, Carroll avenue and Fulton street, Chicago: Photographs.
 Wood, Walter A., Mowing and Reaping Machine Company, Hoosick Falls, N. Y.: Photographs.

CLASS 104.—*Farming on a large or small scale—Agricultural unions and banks.*

Agricultural Commission, State of Louisiana.
 Alabama Land and Development Company, Mobile, Ala.: Photographs.
 Atlantic Coast Line, Wilmington, N. C.: Photographs.
 Chamber of Commerce, Los Angeles, Cal.: Photographs.
 Chamber of Commerce, Santa Ana, Cal.: Photographs.
 Corn Belt, 209 Adams street, Chicago: Publications.
 Department of Agriculture of Maine.
 Department of Agriculture of State of Michigan.
 Department of Social Economy, United States Commission, Chicago: Maps, charts, plans, photographs, books.
 Forms of Massachusetts Cooperative Bank Associations.
 Grain Dealers' Journal, 10 Pacific avenue, Chicago: Publication.
 Hammondsport Wine Company, Hammondsport, N. Y.: Photographs.
 Hoard's Dairyman, Fort Atkinson, Wis.: Publication.
 Jones, Edward D., Madison, Wis.: Monographs—The Country and the People; Its Industries and Resources.
 McCormick Harvesting Machine Company, Chicago: Photographs.
 Missouri Pacific Railroad Company: Portfolio.
 Southern Railway Company, Washington, D. C.: General exhibit.
 Treasury Department, Washington, D. C.: Reports of Comptroller of Currency.

CLASS 105.—*Protection of workers in factories.*

Department of Social Economy, United States Commission to Paris Exposition: Maps, charts, plans, photographs, books, and pamphlets.
 Inspection of factories, Connecticut State bureau of, Hartford, Conn.: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, Illinois State bureau of, Springfield, Ill.: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, Indiana State bureau of, Indianapolis, Ind.: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, Massachusetts State bureau of, Boston, Mass.: Reports, inspection blanks, statistics, photographs, special pamphlet.
 Inspection of factories, Missouri State bureau of, Jefferson City, Mo.: Reports, inspection blanks, statistics, special pamphlets, photographs.
 Inspection of factories, New Jersey State bureau of, Trenton, N. J.: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, New York State bureau of, Albany, N. Y.: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, Ohio State bureau of, Columbus, Ohio: Reports, inspection blanks, statistics, photographs.
 Inspection of factories, Pennsylvania State bureau of, Harrisburg, Pa.: Reports inspection blanks, statistics, photographs.
 Inspection of factories, Rhode Island State bureau of, Providence, R. I.: Reports inspection blanks, statistics, photographs.
 Inspection of mines, Iowa State bureau of, Des Moines, Iowa: Reports, photographs, statistics.
 Inspection of mines, State bureau of, Indiana.
 Inspection of mines, State bureau of, Alabama.
 Inspection of mines, Kansas State bureau of, Topeka, Kans.: Reports, photographs, statistics.
 Inspection of mines, Kentucky State bureau of, Frankfort, Ky.: Reports, photographs, statistics.

- Inspection of mines, Maryland State bureau of, Baltimore, Md.: Reports, photographs, statistics.
- Inspection of mines, Montana State bureau of, Helena, Mont.: Reports, photographs, statistics.
- Inspection of mines, Ohio State bureau of, Columbus, Ohio: Reports, photographs, statistics.
- Inspection of mines, Pennsylvania State bureau of, Harrisburg, Pa.: Reports, photographs, statistics.
- Inspection of mines, South Dakota State bureau of, Pierre, S. Dak.: Reports, photographs, statistics.
- Inspection of mines, West Virginia State bureau of, Wheeling, W. Va.: Reports, photographs, statistics.
- Department of statistics (Indiana).
- Massachusetts, chief of the district police, Boston, Mass.: Factory inspection, inspection of steam boilers, inspection of sweat shops, safety devices.
- Otis Elevator Company, 108 Liberty street, New York: Photographs.
- Williams, J. H., Company, Brooklyn, N. Y.: Photographs of buildings and arrangement of plants.
- Willoughby, W. F., Washington, D. C.: Monographs on various subjects of social economy.

CLASS 106.—*Workmen's dwellings.*

- Apollo Iron and Steel Company, Pittsburg, Pa.: Model of an industrial village.
- Architectural Record, 14-16 Vesey street, New York: Publication.
- Ludlow Manufacturing Company, Boston.
- Department of Social Economy, United States Commission to Paris Exposition: Maps, charts, plans, photographs, books, and pamphlets.
- Draper Company, Limited, Hopedale, Mass.: Photographs.
- Lucas, John, & Co., Fourth and Race streets, Philadelphia, Pa.: Model artisan's dwelling.
- Tenement House Committee, Charity Organization Society of New York City, N. Y.: Models of tenement houses.
- Walker & Pratt Manufacturing Company, Boston, Mass.: Reports, publications, and photographs.
- Washington Sanitary Improvement Company.
- U. S. League of Local Building and Loan Associations: Pamphlets, charts.

CLASS 107.—*Cooperative stores.*

- Department of Social Economy, United States Commission to Paris Exposition: Maps, charts, plans, photographs, and publications.
- Harvard Cooperative Society, Cambridge, Mass.: Photographs, publications.
- Institute of Technology Cooperative Association, Boston, Mass.: Methods of cooperative distribution.
- Proctor & Gamble Company, Ivorydale, Ohio: Photographs of buildings and grounds; pension fund and profit sharing.
- Porters Cooperative Company: Statistics.
- Cooperative Association, Sebattus, Me.: Pamphlets.
- Cooperative Association, Ishpeming, Mich.: Pamphlets.
- Cooperative Association, Silver Lake, Mass.: Pamphlets.
- Mutual Aid Society, James W. Tufts, Boston: Pamphlets.

CLASS 108.—*Institutions for the mental and moral improvement of workmen.*

- American Waltham Watch Company, Waltham, Mass.: Photographs.
- Association of Engineering Societies, 257 South Fourth street, Philadelphia, Pa.: Proceedings.

- Briar Cliff Manor Farms, Briar Cliff, N. Y.: Reports and photographs.
- Brownell, F. H., Rochester, N. Y.: Photographs.
- Cleveland Hardware Company, Cleveland, Ohio: Photographs.
- Department of Social Economy, United States Commission to Paris: Charts, plans, photographs, books, etc.
- Eastman Kodak Company, Rochester, N. Y.: Photographs.
- Ferris Brothers, New Jersey: Photographs.
- General Electric Company, Schenectady, N. Y.: Photographs.
- Gorham Manufacturing Company, Providence, R. I.: Photographs.
- Heinz & Co., Pittsburg, Pa.: Photographs of buildings and grounds.
- League for Social Service, Collective Exhibit: Work of the churches.
- Ludlow Manufacturing Company, Boston, Mass.: Photographs.
- National Cash Register Company, Dayton, Ohio: Photographs and publications.
- Nelson Manufacturing Company, St. Louis, Mo.: Photographs of buildings and grounds, publications.
- Philadelphia Consumers' League, Philadelphia, Pa.: Reports.
- Philadelphia School of Industrial Art, Philadelphia, Pa.: Photographs and descriptive publications.
- Siegel-Cooper Company, New York and Chicago: Photographs of buildings and grounds.
- Sherwin-Williams Company, Cleveland, Ohio: Publications and photographs of buildings and grounds.
- Southern Pacific Railroad: Chicago.
- Tolman, William Howe, New York: Monograph on movements for industrial betterment.
- University of the State of New York, Albany, N. Y.: Home education; traveling libraries; study clubs and lectures.
- Wanamaker, John, New York: Photographs of social institutions.
- Westinghouse Air Brake Company, Pittsburg, Pa.: Photographs.
- Worcester Corset Company, Worcester, Mass.: Photographs.
- Williams, T. H., & Co., Brooklyn, N. Y.: Photographs.

CLASS 109.—*Provident institutions.*

- American Federation of Labor.
- Ancient Order of Hibernians, Philadelphia, Pa.: Reports, etc.
- Cleveland Terminal and Valley Railroad Relief Department: Reports, constitution, etc.
- Comptroller of Currency, Washington, D. C.: Reports.
- Department of Social Economy, United States Commission to Paris Exposition: Maps, charts, plans, photographs.
- Equitable Life Assurance Society of the United States, New York: Charts, statistics, photographs, publications.
- Illinois Central Railroad, Chicago, Ill.: Publications and photographs.
- Independent Order of Foresters, Philadelphia, Pa.: Publications, etc.
- Independent Order of Rechabites, New York: Reports.
- Knights of the Golden Eagle, New York: Reports.
- Knights of Malta, New York: Reports, publications, statistics.
- Knights of the Maccabees, Port Huron, Mich.: Reports.
- Locomotive Engineers' Mutual Life and Accident Insurance Association, Cleveland, Ohio: Charts and publications.
- Massachusetts State Insurance Commissioner, Boston, Mass.: Charts showing extent of life insurance business in Massachusetts.
- Massachusetts Savings Bank Commissioners, Boston, Mass.: Charts showing development of savings-bank system, increased deposits, etc. Reports.

Mutual Life Insurance Company of New York, 32 Nassau street, New York City:
 Charts, statistics, photographs, publications.
 New York State Banking Department, Albany, N. Y.: Reports, statistics, special
 monograph on State system.
 Home Circle proceedings.
 Maine insurance reports.
 State Commissioner of Banks, Harrisburg, Pa.: Reports.
 National Fraternal Congress, Chicago: Reports.
 Ancient Order of United Workmen, Meadville, Pa.: Reports.
 State Banking Department, Concord, N. H.: Reports.
 Baltimore and Ohio Railroad Relief Association, Washington.
 Philadelphia and Reading Railroad Relief Department, Philadelphia, Pa.
 Chicago, Burlington and Quincy Railroad, Chicago.
 Lehigh Valley Railroad, Philadelphia.
 Pittsburg and Western Railroad Relief Department, Pittsburg.
 Hoffman, C. J., Newark, N. J.
 New Jersey bank reports.
 International Typographical Union.
 Trade-union journals.
 New York State Insurance Department, Albany, N. Y.: Reports.
 Order of Scottish Clans, Washington, D. C.: Reports.
 Pennsylvania Railroad Company, Philadelphia, Pa.: Reports, pamphlets, and
 photographs.
 Pittsburg Railroad Relief Department, Allegheny City, Pa.: Reports, constitution, etc.
 Proctor & Gamble, Ivorydale, Ohio: Photographs of buildings and grounds.
 Prudential Life Insurance Company, Newark, N. J.: Publications, statistics, and life
 insurance methods.
 Royal Arcanum, Boston, Mass.: Publications, charts.
 United American Mechanics, Washington, D. C.: Reports, etc.
 United Ancient Order of Druids, New York: Reports, etc.
 Warren, Nathan, Boston, Mass.: Pamphlet giving history of life insurance in
 Massachusetts.
 Willoughby, William Franklin, Washington, D. C.: Monograph on economic
 institutions.
 Woodmen of the World, New York: Reports, etc.
 Modern Woodmen of America.

CLASS 110.—*Public or private movements for the welfare of the people.*

American Academy of Political and Social Science, Philadelphia, Pa.: Publications.
 American Economic Association, Ithaca, N. Y.: Publications, reports.
 United States Census Bureau, Washington, D. C., 1880: Vital and social statistics.
 United States Census Bureau, Washington, D. C., 1890: Vital and social statistics.
 American Humane Education Society, Providence, R. I.: Reports.
 American Humane Society, Chicago: Publications, photographs, statistics.
 Atlanta University, Atlanta, Ga.: Statistical charts showing development of negroes
 in America.
 American Society for Prevention of Cruelty to Animals, New York.
 Board of Trade, Chicago, Ill.: Reports.
 California Paris Exposition Commission, San Francisco, Cal.: Photographs.
 Consolidation Coal Company, Baltimore, Md.: Photographs, lantern slides.
 Colored American, Washington, D. C.: Bound volumes of negro newspapers.
 Daughters of the American Revolution, National Society of: Reports showing organi-
 zation and growth of society.

- Department of Social Economy, United States Commission to Paris Exposition, Chicago, Ill.: Maps, charts, plans, photographs, books, and pamphlets.
- Du Bois, W. E. B., Atlanta, Ga.: Collective exhibit, results of social study of the negro in Georgia.
- Fleetwood, C. E., War Department, Washington, D. C.: Charts showing photographs and official records of negro soldiers and sailors and their medals of honor.
- Good Roads Offices, Washington, D. C.: Photographs.
- Hampton Normal and Agricultural Institute, Hampton, Va.: Photographs of pupils' work in classes, shops, and agriculture. Model bank.
- Harper, Robert H., Chicago, Ill.: Collective exhibit showing homes, business enterprises, etc., of the negroes of Chicago.
- Howard University, Washington, D. C.: Charts and photographs showing professional education among negroes.
- Jones, Edward D., Madison, Wis.: Monographs: The country and the people of the United States; its industries and resources.
- Murray, Daniel, Library of Congress, Washington, D. C.: Books and musical compositions by negro authors.
- Patent Office, Washington, D. C.: Patents issued to negroes.
- League for Social Service, New York: Photographs.
- National Congress of Mothers.
- Jewish Women's Congress.
- Bureau of Labor, Washington, D. C.
- Bureau of Labor, State of Massachusetts, Boston.
- Bureau of Labor, State of Pennsylvania, Harrisburg.
- Bureau of Labor, State of Illinois, Springfield.
- Bureau of Labor, State of Wisconsin, Madison.
- Bureau of Labor, State of New York, Albany.
- Bureau of Labor, State of Connecticut, Hartford.
- Bureau of Labor, State of Ohio, Columbus.
- Bureau of Labor, State of New Jersey, Trenton.
- Bureau of Labor, State of Indiana, Indianapolis.
- Bureau of Labor, State of Missouri, Jefferson City.
- Bureau of Labor, State of California, Sacramento.
- Bureau of Labor, State of Michigan, Lansing.
- Bureau of Labor, State of Maryland, Annapolis.
- Bureau of Labor, State of Iowa, Des Moines.
- Bureau of Labor, State of Kansas, Topeka.
- Bureau of Labor, State of North Carolina, Raleigh.
- Bureau of Labor, State of Maine, Augusta.
- Bureau of Labor, State of Minnesota, St. Paul.
- Bureau of Labor, State of Colorado, Denver.
- Bureau of Labor, State of Rhode Island, Providence.
- Bureau of Labor, State of Nebraska, Lincoln.
- Bureau of Labor, State of West Virginia, Charleston.
- Bureau of Labor, State of North Dakota, Bismarck.
- Bureau of Labor, State of Tennessee, Nashville.
- Bureau of Labor, State of Kentucky, Frankfort.
- Bureau of Labor, State of Montana, Helena.
- Bureau of Labor, State of New Hampshire, Concord.
- Bureau of Labor, State of Washington, Olympia.
- Bureau of Labor, State of Virginia, Richmond.
- Philadelphia Commercial Museum: Charts and statistics.
- Shaw University, Raleigh, N. C.: Photographs and catalogue.
- Strong, Josiah, New York: Monograph on religious movements and social progress.

- Tolman, William Howe, New York: Monograph on movements for industrial betterment.
- Tucker, Frederick de Latour Booth, New York: Monograph on the "Salvation Army."
- Tuskegee Normal and Industrial Institute, Tuskegee, Ala.: Shop work, agricultural products, and photographs of negro pupils.
- Young Men's Christian Association, New York City: Work for the social improvement of young men.
- Young Women's Christian Association, New York City: Work for the social improvement of young women.
- Washington public schools, Washington, D. C.: Miniature models from negro life. Miniature model cotton press.
- League for Social Service, Salvation Army, New York.
- Waterman, Richard, jr., Chicago, Ill.: Monograph on the social economy exhibit at the Paris Exposition of 1900.
- Agricultural and Mechanical Institute (colored): Greensboro, N. C. Collective work.

CLASS 111.—*Hygiene.*

- Abbott, Samuel W., Boston, Mass.: Monograph on hygiene and sanitation.
- Alexander & Co., Marietta, Pa.: Photographs. Vaccine material.
- Allouez Mineral Spring Company, Greenbay, Wis.: Allouez manganese water.
- American Climatological Association, Philadelphia, Pa.: Reports.
- American Public Health Association, Boston: Publications.
- Atkinson, Dr. W. B., Philadelphia, Pa.: Publication: Public Health.
- Bartlett Mineral Water Company, Bartlett Springs, Cal.: Mineral water.
- Bath department, Boston, Mass.: Photograph.
- Bethesda Mineral Spring Company, Waukesha, Wis.: Mineral waters.
- Bath house committee, Brookline, Mass.: Photographs.
- Bear Lithia Water Company, Bear Lithia, Va.: Mineral water.
- Bell, Dr. A. W., Brooklyn, N. Y.: Publication: The Sanitarium.
- Board of health, Baltimore, Md.: Report.
- Board of health, Boston, Mass.: Maps, charts, reports, photographs.
- Board of health, Brooklyn, N. Y.: Photographs.
- Board of health, Buffalo, N. Y.: Maps, charts.
- Board of health, California State, Sacramento, Cal.: Reports.
- Board of health, Cambridge, Mass.: Reports.
- Board of health, Charleston, S. C.: Report.
- Board of health, Chicago, Ill.: Reports and diagrams.
- Board of health, Cincinnati, Ohio: Reports.
- Board of health, Cleveland, Ohio: Report.
- Board of health, Connecticut State, Hartford, Conn.: Charts, maps, reports.
- Board of health, Delaware State, Dover, Del.: Reports.
- Board of health, Detroit, Mich.: Report.
- Board of health, Florida State, Tallahassee, Fla.: Reports.
- Board of health, Illinois State, Springfield, Ill.: Reports.
- Board of health, Indiana State, Indianapolis, Ind.: Charts, reports.
- Board of health, Iowa State, Des Moines, Iowa: Reports.
- Board of health, Kansas State, Topeka, Kans.: Reports.
- Board of health, Kentucky State, Frankfort, Ky.: Reports.
- Board of health, Maine State, Augusta, Me.: Reports.
- Board of health, Maryland State, Baltimore, Md.: Reports.
- Board of health, Massachusetts State, Boston, Mass.: Maps, charts, reports, photographs.

- Board of health, Michigan State, Lansing, Mich.: Maps, charts, reports.
- Board of health, Milwaukee, Wis.: Reports.
- Board of health, Minneapolis, Minn.: Reports.
- Board of health, Minnesota State, St. Paul, Minn.: Maps, charts, reports.
- Board of health, Missouri State, Jefferson City, Mo.: Reports.
- Board of health, National, Washington, D. C.: Reports.
- Board of health, Newark, N. J.: Report.
- Board of health, New Hampshire State, Concord, N. H.: Reports.
- Board of health, New Jersey State, Trenton, N. J.: Reports.
- Board of health, New Orleans, La.: Maps, charts.
- Board of health, New York City: Reports.
- Board of health, New York State, Albany, N. Y.: Publications, statistics, methods.
- Board of health, Ohio State, Columbus, Ohio: Reports.
- Board of health, Oklahoma Territory, Okla.: Reports.
- Board of health, Paterson, N. J.: Photographs and reports.
- Board of health, Pennsylvania State, Harrisburg, Pa.: Reports.
- Board of health, Philadelphia, Pa.: Maps, charts, reports.
- Board of health, Pittsburg, Pa.: Maps, charts, reports, photographs.
- Board of health, Providence, R. I.: Maps, charts, reports.
- Board of health, Rhode Island State, Providence, R. I.: Charts, maps, reports.
- Board of health, Reading, Pa.: Report.
- Board of health, St. Louis, Mo.: Maps, charts, reports.
- Board of health, St. Paul, Minn.: Maps, charts, reports.
- Board of health, San Francisco, Cal.: Report.
- Board of health, South Carolina State, Charleston, S. C.: Reports.
- Board of health, Vermont State, Montpelier, Vt.: Charts, maps, reports.
- Board of health, Washington, D. C.: Reports.
- Board of health, Wisconsin State, Madison, Wis.: Reports.
- Board of health, Worcester, Mass.: Photographs, reports.
- Cemetery Association Cypress Lawn, San Francisco: Photographs.
- Cemetery, The Forest Home, Company, Milwaukee, Wis.: Photographs.
- Cremation Company, The United States, New York: Views of the crematory.
- Cremation, the Davenport Society for, Davenport, Iowa: Photographs.
- Cremation, The Massachusetts Society for, Boston, Mass.: Photographs.
- Cremation, The Philadelphia Society for, Philadelphia, Pa.: Views of the crematory.
- Crematory, The Gardner Earl Chapel and, Oakwood Cemetery, Troy, N. Y. Photographs and plans.
- Crematory, The Le Moyne, Washington, Pa.: Photographs.
- Dairy Commission, New Jersey, Trenton, N. J.: Reports.
- Dairy and Food Division, Michigan, State Department of, Lansing, Mich.: Reports.
- Crematory, Chicago.
- Crematory, Cincinnati.
- Department of the Interior, Census Bureau, Washington, D. C.: Reports, charts.
- Department of Social Economy, United States Commission to Paris Exposition, Chicago: Photographs, publications, appliances for facilitating diagnoses of infectious diseases.
- Department of State, Massachusetts, Boston, Mass.: Reports of registration.
- Dietetic and Hygienic Gazette, New York: Publication.
- French Lick Springs, French Lick, Ind.: Concentrated mineral waters and "Pluto."
- Greenbrier White Sulphur Springs, White Sulphur Springs, W. Va.: Greenbrier sulphurous water.
- Home Science Publishing Company, Boston, Mass.: Publication, The American Kitchen Magazine.
- Kenney Company, The, 72 Trinity Place, New York: Flushometer; pamphlets.

Lytton Springs Sanitarium, Lytton Springs, Cal.: Mineral water.

Mott, J. L., Iron Works, 84 Beekman street, New York: Model bathroom.

Mulford, H. K., & Co., Philadelphia, Pa.: Antitoxine and vaccine material, photographs.

National Mineral Water Company, Saratoga Springs, N. Y.: Mineral water.

National Commission of Public Health, Washington, D. C.: Reports and statistics.

New York Public Baths: Photographs.

Parke, Davis & Co., Detroit, Mich.: Photographs.

Pocono Laboratories, The, Dr. Richard Slee, Swiftwater, Pa.: Vaccine material, photographs.

Sanitarium, Colorado, Boulder, Colo.: Photographs.

Sanitarium, Gabriels, Gabriels (Adirondacks), New York: Photographs

Sanitarium, Loomis, Liberty, N. Y.: Photographs.

Sanitarium, Sharon, Sharon, Mass.: Photographs.

Santa Barbara Mineral Water Company, Santa Barbara, Cal.: Medicinal mineral water.

Small, Maynard & Co., Boston, Mass.: Publication, Journal of Massachusetts Association of Public Health.

Standard Manufacturing Company, Pittsburg, Pa.: Bath tubs, water-closets, lavatory sinks, etc.

Street Cleaning Department, New York: Photographs.

Street Department, Boston, Mass.: Photographs.

Taskinas Mineral Springs Company, Boston, Mass.: Mineral water, carbonized or not.

Vital statistics, division of, Michigan State department, Lansing, Mich.

White Rock Mineral Spring Company, Waukesha, Wis.: Mineral water.

CLASS 112.—*Public charities.*

Allen, Edward E., Overbrook, Pa.: Monograph on education of defectives.

Almshouse, Massachusetts State, Tewksbury, Mass.: Photographs and statistics.

Blind, Institute for the Instruction of, Overbrook, Pa.: Photographs, statistics, charts, publications, pupils' work.

Charities and correction, board of, Colorado State, Denver, Colo.: Publications, statistics, photographs.

Charities and correction, board of, District of Columbia, Washington, D. C.: Reports.

Charities and correction, board of, New Hampshire State, Concord, N. H.: Publications, statistics, photographs.

Charities and correction, national conference, Cincinnati, Ohio: Reports.

Charities, board of public, Boston, Mass.

Charities, Associated, Boston, Mass.: Statistics, reports.

Charities, Associated, Society, Charleston, S. C.: Reports.

Charities, Associated, Society, Charleston, W. Va.: Reports.

Charities, Associated, Janesville, Wis.: Reports.

Charities, Associated, Oakland, Cal.: Reports.

Charities, Associated, Pueblo, Colo.: Reports.

Charities, Associated, Wilmington, Del.: Reports.

Charities, Association, United, Akron, Ohio: Reports.

Charities, board of, Connecticut State, Hartford, Conn.: Publications, statistics, photographs.

Charities, board of, Indiana State, Indianapolis, Ind.: Publications, statistics, photographs.

New York State Industrial School.

Charities, board of, Ohio State, Columbus, Ohio: Photographs.

- Charities, board of, New York State, Albany, N. Y.: Publications, statistics, photographs.
- Charities, board of, Tennessee State, Nashville, Tenn.: Publications, statistics, photographs.
- Charities, public, board of, North Carolina State, Raleigh, N. C.: Publications, statistics, photographs.
- Charities, public, board of, Pennsylvania State, Philadelphia, Pa.: Publications, statistics, photographs.
- Charity and Beneficent Organization, Baltimore, Md.: Photographs, reports.
- Charity, board of, California State, Sacramento, Cal.: Photographs of buildings.
- Charity, board of, Illinois State, Springfield, Ill.: Photographs of buildings.
- Charity, board of, Maine State, Augusta, Me.: Photographs, reports, statistics.
- Charity, board of, Maryland State, Baltimore, Md.: Photographs of buildings.
- Charity, board of, Massachusetts State, Boston, Mass.: Publications, statistics, photographs.
- Charity, board of, Michigan State, Lansing, Mich.: Photographs of buildings.
- Charity, board of, Minnesota State, St. Paul, Minn.: Photographs of buildings.
- Charity, board of, New Jersey State, Trenton, N. J.: Photographs of buildings.
- Children's Aid Society, Boston, Mass.: Statistics, photographs.
- Children's Aid Society of Pennsylvania, Philadelphia, Pa.: Photographs of homes used by the society.
- Children's Hospital, Boston, Mass.: Reports.
- Hospitals and asylums.
- Hospital work.
- Children's institutions department, Boston, Mass.: Photographs, statistics.
- Consumptives, the Massachusetts Hospital for, Rutland, Mass.: Photographs.
- Consumptives, the Seton Hospital for, Spuyten Duyvil, N. Y.: Photographs.
- Control, board of, Iowa State institutions, Des Moines, Iowa: Publications, statistics, photographs.
- State Public School, Coldwater, Mich.
- Correction and charities, board of, Minnesota State, St. Paul, Minn.: Publications, statistics, photographs.
- Deaf and Blind, Institution for Instruction of, Berkeley, Cal.: Photographs.
- Deaf and Dumb, Columbia Institution for Instruction of, Washington, D. C.: Charts, publications, photographs, illustrative work of pupils.
- Deaf and Dumb, Institute for the Instruction of the, New York City: Photographs, pupils' work.
- Deaf, School for, Nebraska State, Omaha, Nebr.: Photographs, publications, pupils' work.
- Department of social economy, United States Commission to Chicago: Collective exhibit of public and private charities in the United States.
- Massachusetts State Farm, Bridgewater, Mass.: Photographs.
- Feeble Minded, School for, Minnesota State, Faribault, Minn.: Photographs of grounds and buildings.
- Feeble Minded, Home for, Wisconsin State, Chippewa Falls, Wis.: Photographs of institution.
- Guild, St. John's, 501 Fifth avenue, New York: Photographs of a floating hospital.
- Heimath, Isabella, New York: Photographs.
- Home for Aged Couples, trustees of Massachusetts, Boston, Mass.: Reports.
- Home for Aged Men, trustees of Massachusetts, Boston, Mass.: Reports.
- Home for Aged Women, trustees of Massachusetts, Boston, Mass.: Reports.
- Home, Illinois Soldiers', Quincy, Ill.: Photographs of buildings.
- Home, Massachusetts Soldiers', Boston, Mass.: Photographs, reports.
- Hospital, Boston City, Boston, Mass.: Reports.

- Hospital, Cambridge, the trustees of, Cambridge, Mass.: Photographs.
 Hospital, Massachusetts General, Boston, Mass.: Reports.
 Hospital Association, New York City.
 Hospital, Johns Hopkins, Baltimore, Md.: Reports.
 Hospital, Morton, Taunton, Mass.: Reports.
 Hospital, Pennsylvania, Philadelphia, Pa.: History of hospital.
 Hospital, Presbyterian, Seventieth street and Madison avenue, New York: Model ward, containing six beds and other furniture, dolls in costume of nurses in training, furniture, and apparatus showing the best methods of treating medical and surgical maladies.
 Hospital for Children, St. Mary's Free, New York: Model ward in hospital.
 House of Refuge—boys' department, Glen Mills, Pa.: Publications, photographs.
 Insanity, Massachusetts State board of, Boston, Mass.: Photographs, statistics.
 Keen, Dora, Philadelphia, Pa.: Statistics and charts showing work for defectives.
 Lancaster School, trustees of, Lancaster, Mass.: Photographs, statistics.
 Lyman School, trustees of, Westboro, Mass.: Photographs, charts, models of sloyd work.
 Lunacy commission, New York State, Albany, N. Y.: Collective exhibit of photographs of hospitals and asylums for insane.
 New York Orphan Asylum, New York: Reports.
 Pauper institutions department, Boston, Mass.: Photographs, statistics.
 New York Catholic Protectory.
 New York Juvenile Asylum.
 Poor, overseers of the, Natick, Mass.: Reports, statistics, photographs.
 Poor, overseers of the, Worcester, Mass.: Reports, statistics, photographs.
 Prison commission, Massachusetts State.
 Charities Review.
 McDonough School.
 National prison commission.
 St. Vincent de Paul Hospital, New York.
 Baron de Hirsch Institute.
 Rose Orphans' Home, Terre Haute.
 Chicago Relief Society.
 St. Francis Industrial School, Eddington, Pa.
 Hartley House.
 Penny Provident Society.
 New York Society for Improving Condition of Poor.
 Brooklyn Society for Improving Condition of Poor.
 Pennsylvania Society for Prevention of Cruelty to Children.
 New Orleans Charity Hospital.
 Jewish Orphans' Home, sloyd work.
 Hospitals for the insane, New Jersey.
 Hospitals for the insane, Indiana.
 Nurses and nursing.
 School for the Feeble Minded, Syracuse.
 School for the Feeble Minded, Fort Wayne.
 Buffalo Charities Organization Society.
 Monthly Register.
 St. Luke's Hospital, New York.
 Sloane Maternity Hospital, New York.
 Vanderbilt Clinic.
 Roosevelt Hospital.
 Hospital boards: Reports.
 Lunacy Hospital: Reports.
 National Fraternal Association.

American Journal of Insanity.
 New York State Reformatory.
 "Charities."
 "The Week."
 The Insane and Feeble-Minded.
 New York Charities Directory.
 "Lend a Hand."
 Jefferson Medical College.
 Orange Memorial Hospital.
 New England Hospital for Women and Children.
 Prisons and Child Saving Institutions.
 Massachusetts School for Feeble-Minded, Waverly.
 Municipal Architecture of Boston: Portfolios.
 Fabiola Hospital: Photographs.
 Charity Organization Society, New York: Reports, blanks, photographs.
 Childrens' Aid Society, New York: Reports, blanks, statistics.
 Five Points House of Industry, New York: Photographs, reports.
 Bureau of Charities, State of Wisconsin, Madison: Statistics.
 State Charities Aid Association, New York: Reports, photographs.
 Mount Sinai Hospital, New York: Photographs, reports.
 Bureau of Charities and Corrections, State of Rhode Island, Providence, R. I.:
 Reports.
 Bureau of Charities, State of Kansas, Topeka: Reports and statistics.
 Bureau of Charities, State of Nebraska, Lincoln: Reports.
 Charity Organization Society, Hartford, Conn.: Reports.
 Charity Organization Society, Denver, Colo.: Reports.
 Charity Organization Society, District of Columbia: Reports.
 Charity Organization Society, New Haven, Conn.: Reports.
 Charity Organization Society, Augusta, Me.
 Charity Organization Society, St. Paul, Minn.: Reports.

GROUP XVIII.—MILITARY AND NAVAL.

EXHIBITS REPRESENTING THE ARMY AND NAVY OF THE UNITED STATES OF AMERICA.

CLASS 116.—*Ordnance and equipment for artillery.*

Department of the Navy, Bureau of Ordnance: Photographs of naval gun factory and of service arms; models of steel rifles; sample cartridge cases, cutlasses, and sword bayonets.
 Department of the Navy, navy-yard, New York: Photographs showing the equipment and facilities of the navy-yard.
 Bethlehem Steel Company, South Bethlehem, Pa.: Photographs illustrating the manufacture of armor plate, ordnance, and hollow or solid forged shafting, and general forgings and castings.
 Steele, W. F., New York: Photographs of gas plant installed in forge shop of United States naval gun factory, Washington, D. C.

CLASS 117.—*Military engineering and accessories.*

Department of War, Signal Corps, United States Army: Photographs of field operations during Philippine insurrection; field telegraphs and telephones; signal flags; field-signal apparatus.

CLASS 118.—*Naval construction, hydraulics, torpedoes.*

Department of the Navy, Washington, D. C.: Photographs of the docks, shops, and plant at the navy-yard, New York, of ships and men, showing life and training of ships' crews.

- Department of the Navy, Bureau of Construction and Repair: Models and photographs of naval vessels, full and in section; models of ship appliances; photographs of United States naval vessels; naval electrical apparatus.
- Department of the Navy, Bureau of Equipment: Standard marine and electrical apparatus and accessories, furnished by General Electric Company; samples of rope, flags, pennants, and signals.
- Department of the Navy, Bureau of Navigation, Naval Academy: Photographs illustrating characteristic phases of cadet life and training at the United States Naval Academy, Annapolis, Md.
- Department of the Navy, Bureau of Ordnance: Electric motor for ammunition hoist, rammer, or elevating; photographs showing manufacture of and practice with automobile and spar torpedoes.
- Department of the Navy, Bureau of Steam Engineering: Photographs, drawings, and blue prints of types of engines for United States naval vessels; model of beam engine of a Pacific mail steamer.
- American Ship Windlass Company, Providence, R. I.: Model of a steam capstan.
- Babcock & Wilcox Company, New York: Photographs and plans, and a forged-steel header of the Babcock & Wilcox water-tube boilers of the U. S. S. *Chicago* and the U. S. S. *Atlanta*.
- Blake, George F., Manufacturing Company, New York City: Model of a Blake vertical twin air pump.
- Bowles, F. T., Naval Constructor, United States Navy: Full size working model of an electrically operated water-tight door.
- Flagg, Ernest, architect, 35 Wall street, New York: Drawings and photographs of the buildings and grounds of the United States Naval Academy, Annapolis, Md.
- General Electric Company, Schenectady, N. Y.: Photographs of electrical apparatus manufactured for the United States Navy and the United States Army.
- Hichborn, Philip, Chief Constructor, United States Navy: Models of barbette turret for 12-inch breech-loading rifles and of Franklin life buoy.
- Holland Torpedo Boat Company, New York City: Model of Holland submarine torpedo boat, type 7, 1900, designed to run at the surface or submerged.
- Melville, George W., Engineer in Chief, United States Navy: Model of a water-tight door designed to be operated by hand or power.
- Page Brothers & Co., Boston, Mass.: Marine electrical fixtures, United States Navy standard.
- Pain's Fireworks Company, 12 Park place, New York City: Series of life-saving and signal rockets and signal lights.
- Roelker, H. B., 41 Maiden Lane, New York: Photographs of Allen dense-air ice machine, as supplied to vessels of the United States Navy.
- Sellers, William, & Co., Philadelphia, Pa.: Model of a 40-ton locomotive dock crane; capacity 64,000 pounds at 70 feet radius.
- Williamson Brothers Company, Philadelphia, Pa.: Model of steam steering gear.

CLASS 119.—*Cartography—Hydrography—Various instruments.*

- Department of the Navy, Washington, D. C.: Miscellaneous publications relating to Arctic exploration, canals, dockyards, gun foundries, and armor factories.
- Department of the Navy, Bureau of Equipment: Publications showing the flags of maritime nations and the international code of signals. Patent log. Sounding apparatus.
- Department of the Navy, Bureau of Equipment, Compass Office: United States Navy standard compensating binnacle, complete with correctors; Pelorus.
- Department of the Navy, Bureau of Equipment, Hydrographic Office: Publications relating to hydrography, meteorology, and navigation; chart construction; characteristic charts; relief map.

Department of the Navy, Bureau of Equipment, Naval Observatory: Photographs of buildings and instruments; records of astronomical observations; navigation instruments; observatory time.

Department of the Navy, Bureau of Equipment, Nautical Almanac Office: The American Ephemeris and Nautical Almanac from 1855 to 1902.

Department of the Navy, Bureau of Navigation: Report of the chief of bureau for 1898, and appendix to same.

Department of the Navy, Bureau of Navigation, Office of Naval Intelligence: Publications—General information series; coaling, docking, and repair facilities of the world; war notes; war series.

Negus, T. S. & J. D., New York: Marine chronometers; conning-tower binnacle; torpedo-boat compensating binnacle.

Ritchie, E. S., & Sons, Boston, Mass.: Instruments of navigation, consisting of compasses, azimuth circles, pelorus, and magnetic instruments.

CLASS 120.—*Administrative departments.*

Department of the Navy, Washington, D. C.: Seal of the Navy Department; medals voted by Congress to United States naval officers; photographs of ships and men illustrating life and training in the Navy.

Department of the Navy, Bureau of Supplies and Accounts: Uniforms of petty officers and seamen of the United States Navy.

Quartermaster's Department, United States Marine Corps: Uniforms, arms, and accouterments of the noncommissioned officers, enlisted men, and bandsmen of the United States Marine Corps.

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